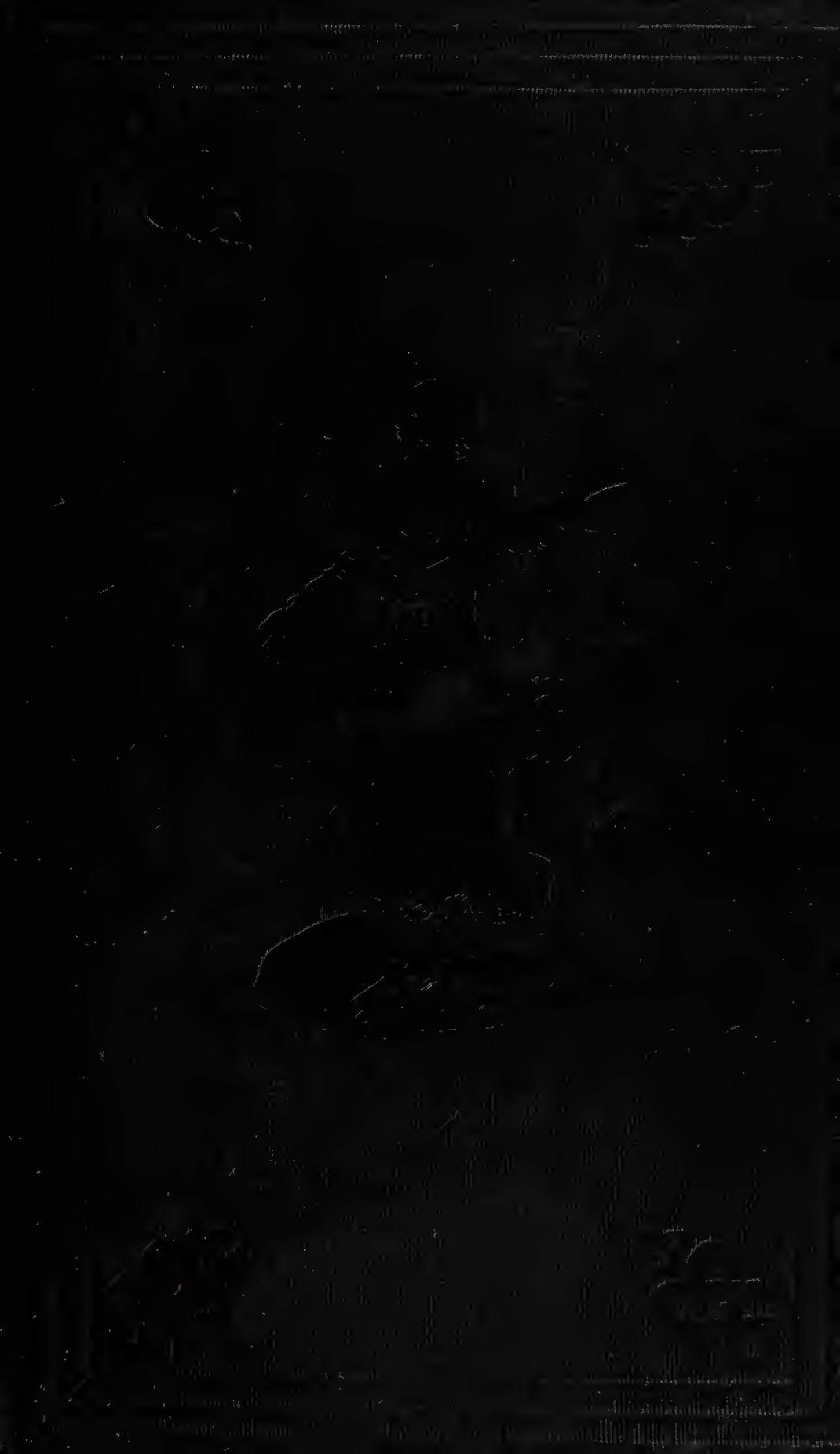

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OF THE

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JULY—DECEMBER

1849.

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THE

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VOL. X.

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,, *Médicale.*
Journal de Chirurgie de M. Malgaigne.
Revue Médicale.
Journal de Chimie et de Pharmacie.

GERMAN.

Schmidt's Jahrbücher.
Zeitschrift für de Gesammte Medicin.
Muller's Archiv für Anatomie, &c.
Liebig's Annalen der Chemie und Pharmacie.
Canstatt's Jahresbericht.
Buchner's Repertorium.
Haller's Archives für Physiolog. und Patholog. Chemie.
Casper's Wochenschrift.
Poggendorf's Annalen.

N.B. Every periodical here specified is consulted *directly* by the Editor and his Coadjutors.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL PATHOLOGY.

ART. 1.—*Summary of the Treatment of Cholera in the Parisian Hospitals.*

(*Gazette Médicale,* Mai 12 et 19, and *London Journal,* June, 1849.)

[THE *Gazette Médicale de Paris*, of May 12th and 19th, contains the following account of the practice adopted by the medical officers of the Parisian Hospitals, in the treatment of cholera.]

I. *Hôtel-Dieu.*—The patients who enter this institution are of all ages and of both sexes, and mostly destitute. The hospital is one of the most unhealthy, being situated on the Seine, badly ventilated, and over-crowded. The medical practice is based on anatomy and physiology, as may be easily imagined when we remember that Chomel, Louis, and Rostan teach and practise there. Their treatment is hence to a great extent uniform, and is of the following character:

For diarrhœa, most employ opium and its preparations, and astringents; and all reject emeto-cathartic remedies. To allay vomiting, they give ice, iced Seltzer water, and the anti-emetic potion of Riverius. Depression is treated by various internal and external stimulants; pain, by calmatives, and in certain cases by revulsives; the loss of warmth, by various calefacient remedies, one using the vapour-bath, another the hot air-bath, another the water-bath at a temperature of 40° to 42° Cent. (104° to 107° Fahr.) Excessive heat, and the appearance of internal congestion, is treated by local depletion, cold water, and even by ice. With the exception of that of two of the medical officers, one of whom trusts to saline treatment, and another to emetics, the treatment adopted in the Hôtel-Dieu is of the above character,

being neither specific nor remarkably violent, nor purely empiric, but a system of physiological rationalism.

M. Chomel admits the existence of several forms of cholera, each requiring its appropriate treatment. These are—the *nervous* form, characterised by the predominance of pain, cramps, and disturbance of the intestines; the *algide* form, by diminution of heat, and disturbance of circulation and respiration; the *gastro-intestinal* form by the abundance of the evacuations; and the *inflammatory* form, bearing some resemblance to acute gastritis and dysentery. In the nervous form, M. Chomel administers opium by the mouth, or in injections, or both ways at once, if possible; if it cannot be administered in either of these ways, he employs the endermic method. In the algide stage, M. Chomel prefers dry to moist vapour-baths; the latter favouring the retention on the surface of the cold clammy sweat which opposes reaction. He prefers friction with aromatic substances, but sometimes employs friction with pounded ice, but only in cases where the algide symptoms are recent, and the patient young and of a strong constitution. The internal remedies which he employs are hot tea, punch, alcoholic drinks, etc.: when the patient complains of internal heat, he prescribes ice. In the inflammatory form, with heat of skin, and full, resisting pulse, he employs general or local bleeding, regulated of course, by the debility of the patient, and the prostration consequent on the attack. If vomiting be abundant, and frequent, M. Chomel administers ice in small fragments or pounded, in small quantities and at short intervals, so that it may be brought into contact with the stomach in a continuous manner. If the vomiting be obstinate, he applies a blister to the epigastric region. Diarrhœa is treated by moderation in the quantity of drink, opiate or astringent injections, with alum, rhatany, monesia, &c.; and a large blister to the abdomen in obstinate cases. M. Chomel treats cramps by opium, used in frictions and internally.

M. Louis.—The treatment adopted by this physician does not differ sensibly from that of M. Chomel. Besides those remedies which may be called for by certain symptoms, his method of treatment mainly consists of calefacients, viz., the hot air-bath and warm infusion of mint, to restore the heat and excite the circulation; and aromatic stimulants, with injections, containing ten or twelve drops of laudanum, several times daily, to restrain the evacuations and pains. When heat is reestablished, Seltzer water is substituted for aromatic draughts.

M. Rostan prefers, at the commencement of the disease, for the purpose of restoring heat, hot water-baths, at the temperature of 40° to 42° Cent., followed by some hot aromatic infusion, and friction of the limbs with ammonia liniment. If these means are insufficient, a mixture, containing ether, alcohol, and laudanum, is administered. In reaction, moderate bleeding is sometimes employed, but only when there are symptoms of internal congestion. In obstinate vomiting, a large blister is applied to the epigastric region.

M. Martin Solon.—The remedies employed in the practice of M. Martin Solon are partly adapted to particular symptoms, and partly intended to act in a special manner on the system, and to modify the

state of the blood. To fulfil the latter indication, he administers carbonate of ammonia, in doses of thirty centigrammes (about $4\frac{1}{2}$ grains), six times a day. In obstinate vomiting, he uses cupping over the epigastrium, or a blister, which is afterwards dressed with a centigramme (about $\frac{1}{6}$ of a grain) of hydrochlorate of morphia. Diarrhœa is treated by injections, containing trisnitrate of bismuth; and suppression of urine by a ptisan of couch-grass and nitrate of potash. During convalescence, he gives wine of Bagnolz with Seltzer water.

M. Leger adopts the saline treatment recommended by Dr. Stevens. He gives common salt, in mixture and enemata; the daily dose of each being from fifteen to twenty-five grammes, until the vomiting has ceased. He states that the vomiting is generally increased at first, but soon diminishes, and usually ceases in about twelve hours. The effect on the alvine evacuations is still more rapid; the first injections often restoring their natural bilious character. The only additional remedy which he employs in the early stage, is hot cloths, to restore warmth.

M. Tardieu at first employed sea-water in five cases, in only one of which it appeared to produce permanently beneficial results. The restoration of the bilious character of the evacuations was the most obvious effect of this treatment. He now gives stimulants, preceded by an ipecacuanha emetic, hot air-baths, aromatic infusions, Seltzer water, &c. He only uses opium where the cramps and other nervous symptoms are very intense, and is very guarded in its use, from the dread of cerebral complications.

II. *Hôpital de la Charité.*—The situation and internal arrangements of this hospital are more healthy than those of the Hôtel-Dieu, and its inmates are mostly from a better class of the community. The medical treatment also presents more diversity.

M. Fouquier and *M. Oulmont.*—M. Oulmont was the first to introduce the saline treatment into the Parisian hospitals; and he employs this method in all cases of cholera, admitting, as an aid, only the external means of restoring warmth. His prescriptions uniformly are: common salt, fifteen grammes; gum-mixture, one hundred and twenty grammes, to be taken every quarter of an hour in spoonfuls; and two or three enemata during the day, containing fifteen grammes of salt with a sufficient quantity of water. This treatment has not, as M. Oulmont himself confesses, entirely answered the expectations formed regarding it. M. Fouquier does not seem to have adopted any exclusive mode of treatment, but to have generally given emetics of ipecacuanha, in doses of two grammes, with diffusible stimulants, and opiate injections.

M. Cruveilhier employs a very active and various treatment. Most commonly, he administers at first aromatic infusions with ether; then a combination of astringents and narcotics, with some such mixture as the following: peppermint water, one hundred and twenty grammes; extract of catechu, one gramme; laudanum, twenty drops. For diarrhœa, he employs enemata containing from fifteen to twenty drops of laudanum; and if there be local abdominal, or thoracic pains, he has recourse to repeated local bleedings, until the pains have ceased.

A succession of sinapisms to the limbs, and friction with a stimulating liniment, complete in general his treatment of the algide stage. In some very severe cases, almost *foudroyants*, he administers every half hour a spoonful of the following mixture: laudanum, three grammes; ammonia, five grammes; ether, fifteen grammes. The treatment in the intervals consists of draughts of hot water, sweetened with gum syrup; sinapisms to surround the limbs; a large sinapism to the abdomen, and a blister to the chest or vertebral column. M. Cruveilhier has tried the *stachys*, but without any sensible result, which may be ascribed to his having combined it with opium and other remedies.

M. Bouillaud generally adopts the saline treatment, and gives daily fifteen grammes of salt in mixture, and two enemata, each containing fifteen grammes of salt. The only additional means which he uses are ice and Seltzer water, and sinapisms to restore warmth. He is entirely opposed to general or local bleeding, even in the stage of reaction.

M. Pidoux has not confined himself to any one method, but has employed a varied treatment. At first he prescribed, in the algide stage, diffusible stimulants with narcotics, as tea, hot infusions of thyme, or mint, with syrup of ether and of opium, a succession of sinapisms to the limbs, &c.; ice and Seltzer water, when reaction had commenced. More recently, he employed opium in large doses, in mixture and injections; but was soon led to renounce its use, from its appearing to produce severe cerebral disturbance. Saline injections have also been tried and abandoned. M. Pidoux employed electro-galvanism in some cases with the effect of relieving some of the more distressing nervous symptoms, as cramp, hiccup, vomiting, &c.; but he has not repeated this remedy. He has also tried the terchloride of carbon, but without sensible effect.

At present, he is making experiments on the utility of trisnitrate of bismuth in diarrhœa.

III. *Hôpital du Val-de-Grâce.*—This being a military hospital, its inmates consist of men generally of good constitution, and not weakened by privations or excesses. It must be remembered, however, that the present dwellings of many of the soldiers in Paris do not present the most satisfactory conditions of aeration, dryness, and ventilation. The hospital itself is in a healthy situation, and its internal arrangements seem perfect.

M. Lévy, the chief physician, describes three periods in the progress of cholera; two of which—those of prodromata, and of reaction—are amenable to a rational system of therapeutics, and the third—the organic or asphyxic—is treated as yet empirically, with more or less success.

1. *Prodromata.*—This period extends from the first disturbance of general health to the appearance of cholera stools or spasmodic symptoms. There are three principal forms, each requiring appropriate treatment. (*a.*) *Nervous form*, indicated by headache, vertigo, weakness of the lower limbs, transitory epigastric spasms, transitory impediment to respiration, &c. Treatment: Repose, warm infusions, sudorifics; and if these be insufficient, ipecacuanha in emetic doses.

(*b.*) *Saburral form*, indicated by *malaise*, sense of weight at epigastrium, foul mouth, anorexia, lassitude, lumbar pains, and cephalalgia. The emetic treatment is successful here, even when, besides these symptoms, there are some cramps and stools more or less typical of cholera. If there be also *gargouillement*, or ventral intumescence, the heat and pulse being normal, M. Lévy employs laxatives, preceded or not by an emetic; by these means he has arrested the course of some apparently severe cases, in spite of severe symptoms having occurred in addition to those of the premonitory stage. (*c.*) *Diarrhœal form*, or *cholerine:* treated by opiates, especially enemata with laudanum, three or four times a day; and ipecacuanha when these fail.

2. *Developed Cholera.*—This period has two distinguishing characteristics—tendency to cold, and loss of pulse; but there are various other symptoms referable to the abdominal, thoracic, or cranio-spinal viscera, one or more of which may be present, giving rise to a variety in type and treatment.

(*a.*) *Cyanic and algide form, with thready or imperceptible pulse; or adynamic form.*—This is the form presented in many sudden attacks. There may or may not have been diarrhœa and vomiting, and the patients present rapid cyanosis, with general algidity, or confined to the face, tongue, and limbs; the skin is pasty, and moistened with a cold clammy sweat; there is extreme prostration, wrinkling of the face, hollowing of the orbits, &c. The patients make little or no complaint, but fall into a kind of coma, which ends in death. In these cases M. Lévy has recourse to the energetic use of calefacients, by directing streams of hot air on different parts of the body, and administering hot infusions, and stimulating mixtures with acetate of ammonia. In the intervals, he gives hot coffee, or wine of canella. The ptisan which he prefers is sweetened infusion of balm, with twenty or thirty drops of tincture of canella to the quart.

(*b.*) *Cyanic and algide form, with predominance of gastro-intestinal symptoms* (*vomiting and diarrhœa*). The same external means of restoring heat are employed; but internal stimulants and hot drinks generally increase the vomiting, or, at least, are soon rejected. The internal remedies are, ice in fragments, effervescing lemonade; and the only stimulant which the patients seem able and willing to bear is coffee. In almost all, who have been much exhausted by vomiting, there is severe pain in the epigastric region, and general abdominal tenderness; obstinate hiccup also supervenes. In these cases M. Lévy employs, in addition to ice and lemonade, the repeated application of sinapisms to the epigastrium, cupping and dry-cupping, followed by laudanum-poultices; if these means fail, he applies a small ammonia blister to the epigastrium, and dresses it with increasing doses of morphia. It may be remarked, in passing, that the blistered surface rapidly heals, and leaves a brownish scar, with thickening of the skin, due to the sanguineous infiltration of the part. In more obstinate cases, trisnitrate of bismuth, in doses of one gramme every hour, up to ten or twelve grammes, has been found successful; it seems first to increase the intervals of, then to suppress, the vomiting. Its action is manifest, if at all, when from four to six grammes have been taken. Diarrhœa

and vomiting have been less obstinate in the patients in the Hôpital de Val-de-Grâce than elsewhere. The use of astringents does not seem to M. Lévy to be useful or beneficial; but he thinks that these symptoms are to be remedied by treating the general state of the system.

(*c.*) *Cyanic and algide form, with predominance of nervous and spasmodic symptoms.*—This is an important form, and most difficult to treat. The patients,—cold, icy, blue, or only of a bistre-tint, pulseless, tortured by cramps, breathless and anxious, from constriction of the thorax, which appears due, as well as the wrinkled countenance and sunken eyes, to muscular retraction, and who are a prey to jactitation, anguish, and severe pains,—form the greatest number of victims. Though ice-cold, they throw off the bed-clothes; they complain of insupportable heat; the hot-air bath becomes a punishment to them, and increases the oppression and anxiety. M. Lévy substitutes for this jars of hot water, long-continued frictions, which at the same time relieve the cramps, hand-sinapisms moved up and down the limbs, and the internal use of hot drinks. This is, without exception, the most severe form of the disease, and that in which several new remedies have been unsuccessfully employed; viz., electricity (by Dujardin's apparatus), ipecacuanha, in doses of from two to four grammes, hachisch, extract of nux vomica, and strychnine. M. Lévy employs here the same treatment as he did at the commencement of the epidemic, with the exception of the hot-air bath. Externally he employs frictions of laudanum with turpentine, camphorated oil with laudanum, *baume tranquille* with chloroform, &c. For internal use, he depends more on ether and laudanum than on acetate of ammonia.

3. *Reaction.*—Clinical observations and post-mortem examinations have furnished M. Lévy with the key to the treatment of this stage. The forms and complications of reaction are in close relation with the anatomical conditions of the asphyxic stage; and the attentive study of the peculiarities presented by the latter will almost enable one to foretell and calculate on the local tendencies of the former. The cyanic, or algide stage, tends to produce congestions, sanguineous extravasations, ecchymoses, &c.; and when reaction takes place, the organs which are the seat of these lesions become subject to hyperstheia, excitement, or phlogosis; inflammation even often becomes one of the conditions of recovery. When the organs have been uniformly and moderately congested, and the reaction is gradual and continuous, there is a slight elevation of pulse, with general perspiration, and turbid or increased urine; here the expectant treatment is sufficient. Sometimes the reaction is more violent, but still general; and a kind of inflammatory fever arises, which only requires hygienic treatment and careful watching. But in a great number of cases, congestive symptoms have been confined to the brain, the lungs, or the intestinal canal. Under the first head are classed secondary encephalic congestions, obstinate headaches, with or without fever, torpidity, most frequently accompanied by vomiting, as in hydrocephalus after cerebro-spinal meningitis; the state of drowsiness and coma which succeeds this; delirium, sometimes furious, sometimes muttering, with intervals

of slumber, being in proportion to the degree of injection of the meninges, and of sub-arachnoidean and ventricular effusion. According to the degree of compression of the brain by the distension of the vessels of the periphery, and to the degree of febrile excitement, there are observed the symptoms of meningitis, of typhoid fever, of meningo-cephalitis; and the most frequent is the torpid state, with vomiting and constipation. According to the nature of the case, M. Lévy adopts the semi-recumbent posture, depletion at the base of the skull, derivatives to the digestive canal (seidlitz water, sulphate of soda, laxative enemata), and revulsives (sinapisms and blisters) to the extremities, and sometimes a blister to the nape of the neck; and in a number of cases his treatment has been successful. Several cases of reactional pneumonia have been cured by bleeding to about eight ounces, opiate emetics, and blisters. The various abdominal inflammatory complications yield readily to cupping, laudanum-poultices, and hygienic means. Severe and persistent pain in the epigastric region has been relieved by the application of ten or twelve leeches. Diarrhœa is the ordinary symptom of relapse, and should be carefully sought for, especially as its existence is often concealed by the patients.

IV. *Hôpital de la Pitié.*—The situation and internal arrangements of this hospital are healthy, but its patients are mostly of the lowest class, from a population decimated by misery, badly lodged and clothed, and ruined by every kind of excess. The modes of treatment, though not completely opposed, present great differences.

M. Serres considers cholera as a pernicious typhoid affection. The object of his treatment is to resolve the disease into its two principal elements, to master at first the pernicious phenomena, so as only to have subsequently to treat the typhoid fever, deprived of the complication to which it owes its severity. One series of remedies is directed against the vomiting, the alvine evacuations, and the pernicious symptoms of the first period of the disease; another against the characteristic changes of the second, or typhoid period. The first indication is fulfilled by the anti-emetic potion of Riverius, Seltzer water, &c. The specific treatment consists of daily mercurial inunctions to the abdomen, sometimes repeated several times a day, to the amount of eight or ten grammes of mercurial ointment; and of the administration of the following pills: Æthiop's mineral one gramme; powder of tragacanth half a gramme; to be made into four pills with syrup, and taken during the day. Opium he employs with moderation. The comatose phenomena of reaction are treated with sinapisms, and sometimes, when very intense, by leeches behind the ears, and laxatives.

M. Piorry.—According to M. Piorry the cause of cholera is a poison *sui generis*, the effects of which are varied by the influence of septic agents. The intrinsic cause of cholera cannot be remedied, but we may greatly modify the conditions of septicity which give the disease its most severe character. His treatment of the intrinsic cause is mainly prophylactic, by withdrawing healthy individuals from the epidemic influence, or removing those who labour under the premoni-

tory symptoms from their confined and ill-ventilated habitations. The disease once developed exercises its influence at first on the blood, then on the digestive canal. The action on the blood he treats by demulcent drinks, exposure to pure air, and copious water lavements. The gastro-intestinal symptoms are treated by large quantities of infusions, especially tea, as long as vomiting continues, and by albuminous drinks (whites of eggs beaten up in water), to remedy the incessant loss of albumen. M. Piorry does not employ evacuants, even though they seem indicated; as he thinks them calculated to increase the debility of the patient to a dangerous extent. If the gastro-intestinal evacuations be obstinate, he applies bladders of ice to the whole of the abdomen, and hot cloths at the same time to the chest, and accompanies these with enemata of iced water. In the algide stage he uses the vapour-bath, tea, with alcoholic spirit, and copious injections of water. The indication here, according to M. Piorry, in this stage as well as the preceding, is to throw as much water as possible into the blood. For the phenomena of reaction he has no fixed treatment, but varies it according to the pathological conditions of the organs as they manifest themselves.

M. Gendrin considers that the disease consists of five principal orders of phenomena, which are successively developed; viz., the premonitory symptoms, which, according to him, are constant; the symptoms of excessive secretion, at the commencement of confirmed cholera; the inspissation of the blood by the loss of its liquid constituents; the suppression of all the secretions; and, finally, febrile reaction in various forms. The indications founded on these five orders rest—1. In the character of the precursory symptoms, which are most commonly diarrhœal, much more rarely nervous or vertiginous. 2. In the state of gastro-intestinal excessive secretion, which must be arrested. 3. In the changes which this secretion produces in the blood, which must be modified so as to maintain or re-establish a healthy circulation. 4. In the febrile complications of reaction, which must be moderated. 5. In the consecutive congestive phenomena, which are to be prevented. In the diarrhœal form of the precursory symptoms, M. Gendrin prescribes emeto-cathartics, as ipecacuanha, followed by a saline purgative, with the object of modifying the excessive intestinal secretion. If the precursory symptoms consist in vertigo, headache, general soreness, without diarrhœa or vomiting, he prescribes bleeding, and a small dose of opium. In confirmed cholera, the first indication is to moderate the state of secretory turgescence of the muciparous crypts of the intestinal mucous membrane; to fulfil this, he employs bleedings at the commencement. If the disease have some intensity he prescribes, in addition, opium in large doses, in solution or in tincture. If the evacuations have been sufficiently copious to produce symptoms of cyanosis, he has recourse to stimulating liniments, with the object of restoring the circulation, and of rousing the sensibility and the exhalant function of the cutaneous surface. If, in spite of these means, the algide stage sets in, M. Gendrin employs vapour or hot air-baths only where the skin appears capable of reacting and perspiring. In the pronounced algide period, he continues the opiates, but depends greatly on external stimulants, as frictions, sinapisms, and blisters. With the

object of giving play to the circulation, he prescribes bleeding; but as the veins allow only a small quantity of blood to escape, he leaves the vein open, and employs friction in the direction of the returning current of blood, until he has obtained some spoonfuls of blood. In the stage of reaction, the treatment of M. Gendrin differs, according as it is more or less complete and energetic. If it be incomplete, and the patient be much debilitated, and if the secretions, especially that of urine, be not re-established, he continues the use of internal and external stimulants, with the addition of sinapisms; if, on the contrary, reaction be energetic, and coma be threatened, a small bleeding is practised; if it be well established and moderate, he confines himself to the expectant treatment. The obstinate vomiting, extreme thirst, and hiccup, so frequent in this period, are treated by ice.

MM. Clément and *Piedagnel* generally employ the *symptomatic* method of treatment, with some modifications at the stages of commencement and reaction. At the commencement of the disease, M. Clément employs, in addition to astringents and opiates, leeching to the fundament. In the algide period, he uses stimulants with caution, for fear of exciting a too energetic reaction. In the precursory diarrhœa or cholerine, M. Clément would give ipecacuanha, but has not yet had an opportunity. The method of M. Piedagnel resembles that of M. Clément, except that he prefers a small bleeding to leeches to the anus. The characteristic feature of his treatment is, the employment of copious bleedings as soon as reaction sets in, so as to combat or prevent symptoms of cerebral congestion.

V. *Hôpital Saint-Louis.*—This hospital is situated in a populous quarter, and its structure is generally salubrious; but the patients are generally in a bad hygienic condition; hence the cases of cholera are numerous and severe.

M. Gibert employs, almost exclusively, the rational or natural method, which consists in fulfilling such indications as present themselves, and in following the course which nature points out in effecting a spontaneous cure. During the precursory period of diarrhœa, he employs rest, dietetic treatment, demulcent drinks, and opiate enemata. In the algide period, he uses hot aromatic drinks at first, followed by gum-water with Seltzer water and ice, poultices with laudanum, narcotic enemata; and, at the same time, sinapisms, hot cloths, and frictions with laudanum over the regions troubled with cramp, so as to excite the circulation in the periphery, and to arrest the evacuations. In the stage of reaction, he applies cupping-glasses to the chest and epigastrium, if there be ever so little dyspnœa, or tendency to asphyxia or coma. He does not employ bleeding, emetics, purgatives, nor specifics of any kind.

VI. *Hôpital Beaujon.*—This hospital is one of the most salubrious, but its inmates are mostly from the villages about Paris, so that the hygienic conditions of the hospital are frequently counterbalanced by misery and insufficient food.

M. Bouvier's mode of treatment is as follows. 1. To moderate the

evacuations by means proportioned to their intensity, and to the exhaustion which they produce; thus, by mouth, syrup of quinces in rice-water, at the commencement; by the rectum, enemata of decoction of marshmallows, poppies, or of starch, with some drops of laudanum. Against vomiting, he uses Seltzer water, the potion of Rivierus, opium in small, repeated doses, ice, sinapisms to the epigastrium, and a small quantity of such drink as may be agreeable to the patient. Slices of orange or citron applied to the lips and tongue to allay thirst, if all drinks, and even ice, be rejected. Cold water is given in small quantities, if the patients prefer it. 2. To sustain the power of the system and produce derivation from the intestines to the skin, he employs light tonic drinks, stimulants, external revulsives, cutaneous irritants; infusion of tea with some spoonfuls of rum, coffee, wine of Bagnols with water, punch; sinapisms, external heat, frictions with liniment of ammonia and cantharides. 3. To prevent and combat cerebral congestion in the stage of reaction, M. Bouvier prefers cutaneous revulsives, sinapisms, blisters to the nape of the neck and thighs, with support of the powers, to bleedings. He also adds antispasmodics, and opium if there be delirium or cerebral excitement; and leeches sometimes, but only when specially indicated.

M. Legroux.—The treatment of cholera pursued by M. Legroux is the following: 1. To restore warmth, and reanimate the patient, he employs hot cloths, in preference to bottles of hot water, which appear to him more hurtful than useful. At the same time, he gives hot drinks of tea with a little rum, &c.; often also with a little syrup of ipecacuanha. These means generally produce prompt reaction. 2. When reaction is established, he gives cold iced drinks, which the patients take with eagerness. 3. At the same time, he gives a mixture with a small proportion of opium, to be taken by spoonfuls, and followed immediately by pills of tannin, to calm the nervous symptoms and diminish the intestinal excretions; also enemata containing laudanum and tannin, several times in the day. 4. When the patient has a certain amount of strength of pulse, he often practises bleeding at the commencement, which he does not hesitate to repeat if there be febrile reaction, especially when there is coma. The blood which flows is generally glutinous: local bleedings by cupping or leeches are often employed by him in cerebral complications, as well as blisters to the lower limbs. 5. In some cases, where the dull intestinal sound indicates their being filled with the cholera matters, he has employed, with advantage, castor oil, alone, or with calomel. 6. Having observed in some cases a sort of alternate remission and exacerbation, he adds sulphate of quinine to the opiate enemata. 7. In cases of obstinate vomiting, he applies a blister to the pit of the stomach. 8. Obstinate diarrhœa is treated by enemata containing a solution of nitrate of silver. 9. As to most of the remedies whose success has been declared wonderful, he has almost abandoned them, convinced that the modifications introduced into the system by cholera can by no means be cured by a single specific.

The following table shows the result of the above systems of treatment:—

	No. of Cases up to May 5.	Deaths.	Recoveries.	Under treatment.	Mortality per cent.	Recoveries per cent.
Hôtel-Dieu	415	210	118	87	0·50	0·29
Hôpital de la Charité .	274	154	57	63	0·56	0·21
— de Val-de-Grâce	227	57	98	72	0·25	0·43
— de la Pitié . .	272	137	87	64	0·50	0·32
— Saint-Louis .	237	113	46	78	0·47	0·19
— Beaujon . . .	133	83	19	31	0·62	0·14

ART. 2.—*Summary of the Treatment of Cholera in the Belfast Hospital.*—[An interesting report of the epidemic as it appeared in the general hospital of Belfast, terminates with the following *résumé* of the treatment employed:]

1. *External applications.*—Among these, artificial heat by means of the hot bath, the hot air-bath, bags of heated salt or bran, jars of hot water, &c., were found of essential service in restoring the temperature and rallying the depressed circulation. The bath was used as high as 110°, and was especially beneficial in young persons. Its action was enhanced by adding salt. The hot air-bath has been lauded by some, but does not present any material advantage over the other forms of applying heat. Indeed, we have for a long time given it up here, having observed the other and more economical modes quite as useful. But in applying heat successfully, assiduous frictions are nccessary. We generally found the temperature and powers soon revive under their joint application; and this is always the first step to be taken when a cholera case arrives at the hospital. To rouse the nervous and circulating system still more effectually, the frictions must be performed with turpentine or ammonia, or camphor liniments; and their action assisted by sinapisms to the extremities and the epigastric region. This to be never omitted, if cramps be present, and these external appliances persisted in until some decided revival takes place. Generally, from ten to thirty minutes' time suffices to bring about this favorable change.

2. *Stimulants.*—When a patient is brought in, in a state of collapse, or a condition bordering thereon, the natural indication is for the diffusible stimuli-spirits, either whiskey or brandy, with ammonia and ether, are given with advantage, and aid the external remedies in restoring the temperature and oppressed circulation. Afterwards they may be given in very moderate quantities. But, while approving of this limited use, we must, at the same time assert their inutility, or even positive injurious tendency, in immoderate doses. Useless, if the timely use is unsuccessful—injurious if reaction set in, by making it more serious. We advocate, then, only the moderate use of stimulants, only freely given when collapse is impending.

3. *Opium.*—In all cases this drug was administered, in some very largely. It seemed to act most beneficially in the early stages—

indeed, its efficacy bore a direct proportion to the period of the disease, the earlier the more useful. We do not remember having seen its narcotic effects induced in true cholera, though it was given frequently in ordinarily poisonous doses. In cholera cases, verging upon or in collapse, the pupil is usually contracted, and, at first, this circumstance was deemed by many as the effect of the opiate treatment; but it was soon found to exist in cases where no such effect could have been anticipated from the quantity employed. In using this remedy, it was found that persistence in its use, after a few good doses, was ineffectual, and it was our custom to stop its administration whenever five or six grains (given in divided doses) proved useless. When diarrhœa and cramps coexisted, much more was indicated and given than in other cases; and frequently when administered early, with a proportion of stimulants, many cases recovered which, there is reason to believe, would have run into collapse.

4. *Calomel.*—There are three modes in use of giving this remedy, viz.:—1. Dr. Ayre's plan; small and very frequently repeated doses, with small quantity of laudanum. 2. Dr. Clanny's; a few very large (3ss) doses. 3. Moderately large doses given generally (except at first) without opium, and continued at irregular intervals, intervals varying according to the varying symptoms of progress. The first we tried in three bad cases with fatal results; the second also without success; and the third is the mode on which we chiefly rely. It is difficult to say how this remedy brings a bad case through; but that it does so not unfrequently we are confident. Sometimes it salivates, and this action and the beneficial change seem to be synchronous. But, again, in many cases of recovery, no such effect on the gums or system ensued. Here its beneficial operation was indicated by the return of the bile. Its action seems sedative. We have seen the most violent vomiting and purging (characteristic), checked at once by two or three ℈ doses without laudanum. In using this drug there is little fear of bad consequences on the gums or mouth, however freely it may have been administered.

5. *Bleeding.*—We have practised this only in the stage of reaction, and both generally and locally. Its use is indicated to remove cerebral and venal congestion, and in the few instances when used it was essentially beneficial. No case presented itself in the early stage, when it seemed at all likely to be useful; and in collapse, the extreme torpor of the circulation, and the poisoned stagnation of the entire fluid, presented little hope of any benefit.

6. *Enemata.*—This form we employed in administering turpentine, opium, starch, nitrate of silver, and creasote. Upon none of these cases can we rely in the confirmed and advanced stages. The injections were either returned or were of no effect. The opiate enemata, in the very first stages, did seem of use, but not more so than the administration of the remedy in the ordinary way.

7. *Salines.*—Dr. Stevens's mixture was employed in many cases, but more as an adjunct than a primary treatment. We cannot state anything positive regarding it. Its use certainly did not lead us to employ it with much hope of success. It demands, however, further trial. Soda, effervescent draughts, we gave largely, and with benefit,

checking vomiting, and allaying the urgent thirst better than any other remedy besides; they did not in any degree aggravate the diarrhœa.

8. *Astringents.*—Of this class, acetate of lead, preparations containing tannin, Sir James Murray's bisulphate of alum, and iron, and turpentine, were severally employed. In all the forms of diarrhœa, save the confirmed choleric, their use we found frequently beneficial; but even here uncertain and temporary, unless aided by opiates. We certainly observed nothing specific in any of them.

9. *Diuretics.*—Though the bilious secretion has been restored, we may be a long way off recovery, on account of the obstinate suppression of urine. In most cases of fatal reaction, this state, by accumulating the poisonous urea in the blood, carries off the patient. Diuretics, therefore, seem indicated. We find, however, the so-called class very imperfectly useful. Squill, sweet spirits of nitre, juniper, iodide of potassium, and turpentine, seemed of little avail. Cupping, leeching, or stimulating the lumbar region, we observed of much more direct benefit, sometimes the urine appearing within an hour after such treatment; and the pathology of the disease at this stage evidently leads to this view.

Besides the above, we may mention, that in cases of great irritability of the stomach, we found creasote of some use, and in some cases of hiccough with cramps, chloroform with camphor we employed with evident benefit. Electricity (from the magneto-electric machine) we have applied, but were not induced to repeat it often. Camphor invariably formed a part of our stimuli.

The diet we principally enjoined was chicken-soup, toast-water, arrow-root, eggs beaten up with spirits, during the disease; and rice, veal, mutton, or chicken-soups and bread during convalescence. The usual potations were the saline drink, or cold water, or toast-water, or soda effervescents with or without stimulants.

[Upon the above the reporter remarks that] the above is a brief but correct general view of the mode of practice in managing this formidable disease in the Belfast General Hospital. We have, it will be seen, not omitted to employ remedies of repute elsewhere; and though we cannot boast any specific, or even any single efficient remedy, yet we believe our general line of treatment is as steady, rational, and as effective as any of which we possess authentic records.

Art. 3.—*Report of a Discussion on the Treatment of Cholera at the South London Medical Society.*

(*Medical Gazette*, Sept. 1849.)

[This subject having been proposed for discussion, and the members being invited to state their views, on the best method of treating the disease, the following opinions were elicited.]

Dr. Barlow considered that during the stage of collapse, all treatment was unavailing; that, as regarded internal remedies, they might as well put the remedies into a hat. But he referred only to the state of extreme collapse. He had seen remarkable cases of recovery, in which very little treatment had been applied during collapse. In two

of the worst, mercury had been freely given before profound collapse. He had been called to see a man in that state, who was in an apartment in a temperature of nearly 140 degrees, having blankets heaped over him, and who expressed a sense of relief when the blankets were removed. The cold air, cold drinks, and moderate doses of calomel, seemed to have a most beneficial effect. He had never expected that they would be able to cure cholera. They could not cure typhus, but they could often carry the patient through the disease.

Mr. Greenwood advised an emetic in the first instance, namely twenty-five grains of ipecacuanha. Under the particular mode of treatment which was so commenced, he stated that nine out of the ten patients were found to recover.

Mr. Leadam remarked that his experience showed him that there were only two modes of treatment—first, the treatment by calomel alone, which assumed two forms, the Indian treatment, in large doses of fifteen grains and the like, being the first; though the second dose was required early, yet the interval between the subsequent doses was lengthened. In spite of the large doses, the quantity given was less than under the second mode of administering calomel in smaller doses, which he had tried assiduously. He was thoroughly convinced that opium was bad. Giving brandy he thought the exception, and giving water the rule: 75 per cent. of his cases were cases of recovery; 25 were fatal. The other mode of treatment to which he had alluded was with camphor. He had given camphor with spirits of wine in many cases of premonitory diarrhœa.

Dr. Crisp concurred with Dr. Ayre, in the opinion, that if they saw a person moribund, they ought not to despair. He had, with Mr. Tayler of Camberwell, seen a child which appeared in a hopeless state. He pursued Dr. Ayre's plan. The boy was convalescent, having taken 200 grains of calomel. Previously he had been taking large quantities of water, which they ordered to be reduced to one teaspoonful from time to time. In the case of a woman apparently moribund he tried an injection of saline fluid. He believed her life was thereby prolonged for five hours.

Dr. Gull deprecated the heroic treatment with opium in cases of cholera. He had treated a boy on Dr. Ayre's plan. The boy took 250 grains of calomel. In a case he had examined himself, and the same result had been observed by Dr. Baillie, who had examined a great many cases, and found there was a large quantity of tenacious mucus thrown out from the coats of the stomach, and of pulpy epithelium thrown out from the small intestines, which, he thought, invested the calomel, so that little was absorbed. In cases of extreme collapse they might as well put calomel into a bladder as into the human stomach. There was no circulation or absorption; and they ought rather to look to injection into the veins.

Dr. Lloyd had seen applied great heat and intense cold. With hot air and blankets he had seen the skin turned red, and perspiration running from it; yet the patient had died in a faint. The diarrhœa had been checked, but diaphoresis from the skin had supervened, which, abstracting the serum from the blood as much as if it had passed internally, ended in death. When seeing Mr. Aston Key, whom they all so highly esteemed, he found him collapsed. He (Dr. Lloyd) was

warm. Mr. Key was very cold, and pulseless. Mr. Key took him by the hand and said, "How do you do?" Adding, "Oh, your hand is very hot; I can't bear it." This showed the feeling against the application of heat. They ought not to act against nature. The violent application of heat he thought should be avoided. In collapse, calomel might as well be put into a bag as introduced into the human stomach. Calomel was beneficial before collapse. He had, in three cases, seen patients treated with the wet sheet, sink, as in the case of which he had first spoken. He had seen oil administered. In a mild case the patient recovered; but further it had not been successful. In collapse opium ought not to be given; but grain-doses, at a previous stage, were of great service, and relieved the distressing feeling of pain and sinking. After the collapse has terminated, calomel might be given again.

Mr. Mitchell had treated 63 cases, 28 of which had proved fatal. He applied a sheet dipped in cold water, and placed over the patient half a dozen blankets. If the collapse had been of long duration, there was short reaction, and the patient frequently died; but where the collapse had been short, recovery took place. He had seen 666 cases affecting the mucous membrane of the *primæ viæ*. He had divided them into classes, and hoped on a future occasion to be able to place the result of his inquires before the Society in a systematic form. In one case of a woman about 34 years of age, who had been suffering from serous diarrhœa, the diarrhœa yielded to opium and aromatics with chalk. Three days after he found her in a complete state of collapse. Her skin was perfectly cold, and she was pulseless. The remedies were applied. On returning, he found her countenance perfectly full. In another hour she became animated. There was no purging or vomiting after she was wrapt in the sheet, and she perfectly recovered. She was put under a course of calomel and opium, which was his universal plan. He believed that when reaction had set in, part of the calomel, being retained, would be absorbed into the system.

Mr. Dendy thought it their duty to set the public mind at rest with respect to the apparent discrepancy in their opinions. That discrepancy was rather in terms than in opinion. Cases had often been reported in the public journals as cases of Asiatic cholera, which were cases only of common English diarrhœa. He had had many cases of serous diarrhœa which he would not call cholera, though others would. It was important the public should know that, as there were four or five different roads to York, so there were different treatments which were really identical; those drugs which the public imagined to show a contradictory practice, having the same tendency or effect.

Dr. Seaton recommended a mode of treatment extensively used in the West of England by the administration of an astringent and antispasmodic medicine, consisting of about equal portions of cayenne pepper, tormentilla, and gum myrrh.

Mr. Hicks thought that, as to treatment, they had gained something in a negative point of view. Opium they had found to be useless, as also brandy, which, indeed, he thought had been the means of cutting short the lives of patients. Opium for simple diarrhœa was efficacious, but it was not so with rice-water evacuations. He strongly approved of the application of gallic acid and lead.

Art. 4.—*Treatment of Malignant Cholera.*—[The following comparisons of various modes of treating malignant cholera is taken from a review of several recent writings on this disease in the 'Monthly Journal,' 1849.]

Bloodletting.—In reference to this the evidence is conflicting. It has been employed with alleged benefit in all stages of the disease in this country and in India. In the early stage it has been effectual in relieving the feeling of oppression on the chest. Its effect on the mortality is not evident. Dr. Robertson, in his statistical account of the cholera in Edinburgh, during the present epidemic, states that he has in many instances prevented collapse by this measure.

Stimulants.—According to Mr. Ross's table, stimulants given to any extent appear to have been injurious.

Opium.—There seems no reason to doubt its efficacy in the early stage; but, according to the tables above mentioned, it does not diminish the mortality.

Mercury has not been followed by remarkable success in this country, excepting in the hands of Drs. Ayre and Peacock, both of whom use it without stimulants. In their experience the mortality was reduced to thirty-one per cent. Dr. Fleming advises the use of a solution of the bichloride, as more readily absorbed.

Tartar emetic in small doses, with cold water *ad libitum*, has, in the Droitwich Asylum, afforded the largest per centage of cures, the deaths being only four in twenty-four cases.

Injection into the veins has afforded no satisfactory results.

Chloroform has been used by inhalation in thirty-seven cases. The results are inferior to those witnessed in the Droitwich Asylum, but superior to the general results exhibited in Ross's tables.

Edin. Monthly Journal, 1849.

Art. 5.—*On Dropsy after Scarlatina.*—By Dr. Behrend.

(*London Journal of Medicine,* Aug. 1849.)

[The author's observations are originally published in the 'Journal für Kinderkrankheiten,' March and April, 1849, and are translated in the 'London Journal of Medicine.' He describes—1st, Dropsy depending on congestion and inflammation of the kidneys; and 2d, Dropsy dependent on anæmia.]

1. *Dropsy from Congestion and Inflammation of the Kidneys.*—The dropsy may appear as early as the fifth or sixth day after the appearance of the eruption, or as late as the fifth or sixth week. The form of dropsy under consideration is preceded by certain premonitory symptoms, which should excite suspicion. Sometimes desquamation has scarcely commenced when the redness of the skin has entirely disappeared. The child appears to have recovered; but a carefully observing medical attendant finds, from the somewhat accelerated pulse, the failing, or at least irregular, appetite, and the disturbed though prolonged sleep, that the patient still has some of the *materies morbi* remaining in him. The child is peevish; the skin is cold and pale; the pulse becomes quicker; and œdema soon appears. Sometimes

it is ushered in more violently; as in a case where the child was seized, on the tenth day after the appearance of the eruption, with intense fever, and was delirious throughout the night. On the next day œdema appeared, which increased as the fever decreased. In most cases the œdema appears slowly and gradually, first on the face, then on the hands and feet. The attack is almost always accompanied by loss of appetite, great thirst, constipation, and retention of urine, at the same time that there may be urgent desire to pass it. The extent of the œdema is very various in different cases, and varies even in the same case. Sometimes it is confined to the eyelids, frontal region, and cheeks; sometimes it extends over the whole body, and has occasionally ascites conjoined with it, or even, in a few cases, dropsy of the pericardium. In many cases the œdema alternately increases and diminishes.

The symptoms which accompany the dropsy are not always in relation with the extent of the œdema. They are frequently modified by the existence of effusion into the serous cavities. It is evident that the symptoms will be different, and of greater intensity, when the general dropsy is complicated with dropsy of the pericardium. Another group of symptoms will be produced by the supervention of ascites or hydrothorax. These complications, which are not unfrequent, influence not only the phenomena of the disease, but also its result. If there be no effusion in the serous cavities, the phenomena are usually simple and mild. A slight fever continues for two or three days; after which there is a copious flow of urine, and the œdema rapidly disappears. Sometimes the œdema, when it is very extensive, continues from five to eight days, attended with pain in the back and loins, and may even last to the tenth or eleventh day, before the kidneys have regained their function, and the dropsy begins to subside. The worst cases are those in which there is effusion into the serous cavities. There is also another complication, which Dr. Behrend has observed in two cases—œdema of the lungs.

Effusions into the serous cavities after Scarlet Fever, occur, according to the author's observations, in the following order of frequency:—1. *Ascites.* 2. *Hydrops Pericardii.* 3. *Hydrothorax.* 4. *Hydrocephalus.* Pulmonary and cerebral œdema are, in some measure, consequences of the impediment to the circulation, resulting from the general œdema; the former do not occur without the latter. It is to be remarked, that there seems to be a certain inverse ratio between the effusions into serous cavities, and those into the subcutaneous cellular tissue. The more extensive the œdema, the less the effusion into the serous cavities, and *vice versâ.* Ascites, however, seems to be an exception. Sometimes this antagonism is very remarkable.

The question as to the relation of albuminuria to the dropsical effusions, bears on the existence of Bright's disease. It is now correctly doubted by many, whether the granular change in the kidney, which has long been considered as the cause, or the proper origin of albuminuria, be really the commencement of Bright's disease. The granular condition is rather to be looked on as a sequel, or rather as a consequence of the same congestion which produces the albuminuria.

The urine, in cases of dropsy after scarlatina, is scanty; at first

clear, then darker; becomes turbid on standing, and deposits a whitish sediment. It has an acid reaction, is usually of low specific gravity, and deposits masses in the form of flocks on the application of heat. When the dropsy is more extensive, the urine becomes of a dark dirty brown colour, with a reddish brown sediment; heat throws down a large quantity of albumen. Under the microscope, the sediment presents crystals of urate of ammonia, blood-corpuscles, pus-globules and mucus-globules, and epithelium particles. The kidneys present very little change in the slighter cases, where there has been little œdema, and when the patient has died of affection of the brain, or some other accidental complication. They are only firm and full; and on section, the cortical substance is seen to be very red, and apparently in a state of intense capillary congestion. But in those cases in which the dropsy has been of greater extent and duration, and where death has been produced by, or has soon followed it, the kidneys exhibit that change which Dr. Bright has so acutely and accurately described in the disease which bears his name. The capsule can be torn off more easily than is natural, and the surface is pale and spotted. On section, the cortical substance is distinguished in a most remarkable manner, by its pale, clear, straw colour, from the extremely dark-coloured tubular substance. The contrast is sharp and distinct; the tubular substance is highly injected; so, also, are even the pelvis and infundibula. Under the microscope, the granular condition of the cortical substance, which can be felt with the finger on the surface of the section, is found to be produced by a blocking up, or obliteration, of the tubuli and interspaces with pus-globules and mucus-globules; and by these exudation-corpuscles, the capillary vessels are in part compressed, in part entirely obliterated. The latest researches of G. Johnson, Busk, Toynbee, and Simon (Med. Chir. Trans., vol. xxix and xxx), have shown, that this alone explains the apparent anæmic state, or the clear pale yellow colour, of the cortical substance.

In explaining the general phenomena of the dropsy, it is to be remembered, that the skin and kidneys are vicarious in their function. The nature of the scarlatinal poison we are not acquainted with; we cannot isolate it by physical or chemical means. We know, however, that it exists; and farther, that its tendency is chiefly to the skin, and next to the kidneys. It is generally considered a highly favorable circumstance if the eruption be well developed in cases of scarlatina; the danger is not indeed removed, but considerably diminished. Whether the desquamation be necessary to the elimination of the poison, is not discovered. It appears not to be so; and the treatment adopted by Scheeman, in Hanover, and confirmed by Mauthner, of rubbing with fat, so that desquamation is prevented, appears to indicate that it is not necessary. It appears, then, that desquamation is to be considered as a sequel of the inflammation of the skin. If desquamation be prolonged, the excreting function of the skin must be impaired, and the kidneys then assume increased activity: hence, the scarlatinal poison is determined for elimination as much to the kidneys, as to the skin. The intensity of this determination evidently depends on the intensity of the scarlatinal poison existing within the body, which seems to vary greatly in different epidemics, and in different individuals. The greater

the poisoning is, the greater and longer will be the process of elimination in favorable cases. A very lively cutaneous eruption and a certain degree of determination to the kidneys may be sufficient; but one of the following events may happen: 1. The attempt at elimination by the kidneys may be in greater proportion than that by the skin; 2. The elimination of the scarlatinal poison may not end at once, but may cause a fresh irritation, which will not produce efflorescence, but, as the skin has been impaired in its functions, will lead to watery exudation into the subcutaneous cellular tissue. Elimination by the kidneys can never tend to so favorable a result as that by the skin; for, in the former organs, congestion is produced, and, as a consequence of this, diminished excretion. The vessels of the cortical substance become obstructed; the tubular substance throws off a part of the exudation in the form of albumen; while another part is deposited in the form of granulations, compressing and obliterating the vessels. The impediment, greater or less, to the excretion of urine, must lead to effusions into the serous cavities or cellular tissue. I am inclined to think that the dropsy is partly a direct result of the impediment to the eliminative process of the skin, and of the efforts of nature to restore this, and partly a consequence of the impediment to the excretion of urine by the kidneys. To the latter cause, the effusions into the serous cavities seem referable; while the dropsy of the cellular tissue seems to be a sequel of the renewed attempt at elimination by the skin.

There must be some co-operating agency—a specific cause—which may directly lead to accumulation in the kidneys and to albuminous exudation. For were it otherwise, there would always be congestion and exudation of albumen in cases where there is increased tendency to the kidneys, in consequence of impeded cutaneous function. This specific matter can only be the scarlatinal poison, which endeavours to get eliminated by the kidneys, as well as by the skin. We may, therefore, place the eliminative function of the skin, as manifested by eruption and œdema, on the same line with congestion of the kidneys. I am convinced that the prevention of the excretion of urea from the blood is the chief cause of the dropsical effusions. Albuminuria is, indeed, a dangerous symptom; but it is no evidence of the intractability of the disease, or of imminent death. Recovery is certainly tedious; but there is not such a predominant disposition to disorganization of the kidneys, as in the so-called Bright's disease of old drunkards. The more violent the affection of the kidneys is, the greater is the danger, as death may occur from sudden effusions into the serous cavities. In cases where the patients have died of dropsy of the pericardium, or of hydrothorax, or of hydrocephalus, after scarlatina, the kidneys are found highly congested, especially in the tubular substance. Dropsy of the cellular texture seems to diminish the danger of effusion into the serous cavities; but death may be caused by œdema of the lungs.

Treatment.—Dr. Behrend here observes, that the first thing to be done is to diminish the congestion of the kidneys, so as to prevent the exudation of plastic matter, and to restore the diuresis. For this purpose, the best means are repeated applications of a sufficient number of leeches—from six to ten—to the lumbar regions, or repeated cuppings: the former seem the best remedy. The second indication is to

restrict the diet, and to administer mild diuretic salts, as the acetates of potash and soda, which act also on the intestinal canal. Infusion of elder-flowers is useful as a drink, for promoting diuresis. The body should be kept warm by being wrapped in flannel, impregnated with the vapour of sugar: this is prepared by throwing pounded white sugar on glowing coals, and holding the flannel over it. The limbs may also be enveloped in raw wool. I have lately tried the effect of sponging the skin with turpentine, and then covering it with flannel; but cannot speak with certainty as to the efficacy of this treatment. If the dark colour of the urine return after it has been removed by means of local depletion, this must be repeated, without any regard to the apparent weakness of the child. This state of the urine is indicative of a highly congested state of the kidneys. If the attack be less acute—if there be œdema, and the urine be albuminous, but clear and in sufficient quantity, spirits of nitric æther may be used, in addition to the diuretic salts. A restricted diet is not so necessary, as that the child should be kept in bed and in a warm atmosphere, so that the skin may be kept in a state of functional activity. Friction with oil of turpentine, warm baths, and mild purgatives, are indicated: sanguineous depletion is not proper. The child must be kept very warm for a long time: it should be daily rubbed with flannel for a month; and if it continue pale and weakly, iron should be administered; and the patient should have the benefit of country air. In dropsy of the pericardium and pleura, and in hydrocephalus, there is so great danger, that these affections will have to be treated without reference to the original cause of the disease. There is but little hope of recovery, unless nature takes some extraordinary course.

2. *Dropsy from debility or anæmia* (*Hydrops anæmicus*).—This is the result of debility or anæmia, and resembles the dropsy which arises from that cause, when scarlatina has not occurred. When a weakly, delicate, anæmic child is seized with scarlatina during an epidemic, the eruption is generally slight and very transient. On the third or fourth day, or later, œdema of the joints sets in. The pulse is usually small and somewhat accelerated, but the fever is very inconsiderable or entirely absent, the tongue and lips are pale, and the countenance somewhat sunken. The urine is pale, and contains no albumen, or so little, as not to be noticed. Drs. Philip of Berlin, and Kennedy of Dublin have recorded cases of this kind. This form of dropsy depends less on congestion of the kidneys, than on the deficiency of fibrin in the blood; which, when there is an effort to eliminate the scarlatinal poison by the skin and kidneys, cannot effect this process, but gives rise to a watery exudation. The diagnosis is easy, if the urine be examined. The absence or small quantity of albumen, and the non-existence of blood or of exudation-corpuscles, give full information. The urine has not generally an acid reaction: it often contains an abundance of phosphates. The treatment should consist of the tartrate, carbonate, or hydrochlorate of iron, which may be combined with bitters.

Conclusions.—1. Two forms of dropsy occur after scarlet fever, the *nephritic* and the *anæmic*. 2. These distinctions only point out the original evil, which is the cause of the dropsy. 3. In *hydrops nephri-*

ticus, the main affection is a highly congested state of the kidneys, even proceeding to inflammation. 4. This congestion of the kidneys is just as much a specific effect of the scarlatinal poison as the cutaneous congestion and eruption. 5. As a consequence of the congestion there is exudation into the kidneys; and, from rupture of capillary vessels, some effusion of blood, which tinges the urine of a dark chocolate-colour. 6. The presence of albumen in the urine is partly the result of exudation, partly of the mixture of blood. 7. The small vessels and tubuli of the kidney are partly compressed, partly obliterated, by the exudation, so as to give a granular appearance: the capillary vessels of the cortical substance are partly empty, partly filled with exudation-corpuscles, without red blood, which produces the pale yellow colour of this substance. 8. The tubular substance undertakes the whole function of the kidney. A more powerful flow of blood and urine to this part produces within the tubes a removal and reproduction of epithelium (analogous to the eruption and desquamation in the skin), and finally a discharge of albumen with the urine. 9. The impediment to the function of the cortical substance of the kidneys—the modification to such an extent of the function of the tubuli—prevents the full elimination of urea from the blood. 10. Being retained in the blood, the urea mixes with it; and, in conjunction with the scarlatinal poison, produces nervous symptoms of a narcotic character: delirium, coma, sopor, &c. 11. To this mixture of urea with the blood, as well as to the endeavour to eliminate the scarlatinal poison by the skin, is the watery effusion to be ascribed: the effusion into the serous cavities is entirely a result of the presence of urea in the blood. 12. The danger attending the dropsy depends on its situation, and on the amount of organic activity which is present. 13. Effusions into the serous cavities are especially dangerous, while cutaneous dropsy is of less moment; and, of the effusions into serous cavities, that into the peritoneal cavity is less dangerous than those into the cerebral and pericardial cavities. 14. The greater the activity of the organism, the less is the danger; for this shows that the blood has not retained any considerable amount of urea. 15. So long as the urine gives evidence of the presence of blood, with epithelium, besides albumen, and has an acid reaction, the danger is less than when it is clear, phosphatic, and at the same time highly albuminous, as this indicates an extensive and progressive degree of poisoning of the blood 16. The indications of treatment, in cases where the urine contains blood and albumen, and is acid, are to diminish the congestion of the kidneys, and to promote the full elimination of urea. An antiphlogistic and saline treatment is here indicated. 17. As soon as the urine, while it contains albumen, becomes of a pale yellow colour, and ceases to have an acid reaction, the antiphlogistic and saline treatment is improper. It is then necessary to counteract the poisoning of the blood, and to increase its plasticity. Iron and tonic medicines are here indicated. 18. The same treatment is necessary when a weakly anæmic child has been seized with dropsy soon after a slight attack of scarlatina. The urine here contains little or no albumen; and the plasticity of the blood is so low that death will result if it be not increased by the diligent use of tonics.

Art. 6.—*Extract from Clinical Remarks on Acute Dropsy.* By Dr. R. B. Todd.

(*Medical Gazette*, April 4, 1849.)

[After the detail of the general symptoms of this form of dropsy, and the mention of a case in point, the lecturer gives the following account of the more frequent complications. These are:]

A. Intrinsic complications, or those connected with the kidney itself:

1st. The most common effect of the renal irritation, which comes on so early in these cases, is a great increase in the quantity of epithelium formed in the renal tubes, and the desquamation or casting off of this epithelium in considerable quantity. In scarlet fever a similar condition of the skin and of the kidney is apt to exist at the same time; as there is an inordinate shedding of epidermis, so there is also of renal epithelium; but in these cases the desquamative state of the kidney exists without a corresponding desquamative condition of the skin.

2d. Hæmaturia. Probably whenever the irritation is sufficient to cause desquamation, it always produces the escape of *some* blood; but this is generally in so small a quantity as only to cause a smokiness of the water. Sometimes, however, the hemorrhage is considerable, and when it is so it constitutes the most difficult symptom for the physician to contend with. Perhaps you may remember a case we had in the hospital in the summer, in which the first symptoms were suppression of urine and universal dropsy; the secretion of the kidneys was soon after re-established, but with it a most extensive hemorrhage from the kidneys, so that it became no longer a case of *dropsy*, but one of *hæmaturia*. That case exactly represents what is so apt to take place in this acute inflammatory dropsy. If the primary state of irritation or inflammation of the kidney does not go off by resolution, it is very apt to assume this hemorrhagic condition. The vessels, long dilated by the pressure of an undue afflux of blood, suffer in their contractile power, and, becoming greatly weakened, give way at various points; nor do they recover until the general nutrition of the kidney is restored, the undue afflux of blood removed, and the gland reduced to its natural size by the discharge of the great mass of epithelium which distended its tubes, and contributed greatly to its enlargement.

3d. A third and much more formidable complication is when the inflammatory state passes into suppuration. This is different from the ordinary or phlegmonous suppuration of the kidney, in being much more extensive, and having several suppurative centres, thereby leading to a more complete and extensive disorganization of the kidney.

B. A very formidable complication of this form of dropsy is that which arises from the inflammation of one or more of the serous membranes, which sometimes supervenes. A man may be going on to all appearance very well, with, however, a diminished secretion of the kidney, when suddenly an attack of pleurisy sets in, with more or less fibrinous or serous effusion; and in some instances the inflammation is not limited to the pleura, but the pericardium and peritoneum are affected. I have seen inflammation of all the three cavities come on

in the same day. Such cases are, of course, extremely rare; but a serous effusion into one or more of the great cavities—most commonly into the peritoneum—is of very frequent occurrence, in consequence, probably, of the diminished density of the blood. There is at all times a great tendency to it. The most probable explanation of these phenomena is this: Owing to the imperfect action of the kidneys, the urea, as is proved by abundant evidence, is not eliminated from the blood, but accumulating there, is thrown off in some minute quantity by that slight effusion or halitus that is constantly going on in the serous membranes, and thus becomes a source of irritation, in just the same way as we have seen the rheumatic poison a source of inflammation of the synovial membrane of the knee-joint. Hence you have increased afflux of blood to these surfaces, with generally serous effusions, and in some instances formations of lymph and adhesions; and I think it is in this class of cases, and also in those renal diseases connected with gout and rheumatism, that you most frequently find serous inflammation: they do not, I think, occur so commonly with the *true fatty* disease.

It is very rare to meet with arachnitis in acute dropsy. States of delirium, and even mania, often supervene, but these are due to a disturbed nutrition of the brain itself—either due to the watery and pale state of the blood, or to the irritation of the brain by retained urea. When you examine cases of this description after death, you find no evidence of recent serous inflammation, but only a pale state of the brain, which is of less than its normal bulk, and is surrounded with more subarachnoid fluid than is usual in the state of health. The delirium in these cases is very analogous to that which occurs in rheumatism and gout.

c. Lastly, you may have as a complication of this dropsy an irritated state of liver, coexistent with the analogous state of kidney; and it is not improbable that this may be the reason of the greater frequency of serous effusion—of dropsy of the peritoneum—than of the other serous sacs. In all instances when the liver is irritated, you may expect to find some degree of yellow discoloration of the skin, and the dropsy not confined to the areolar tissue, but affecting the peritoneum also.

Pathology.—What conclusions may we come to as to the *pathology* of acute dropsy? We know that the kidneys are in a state of congestion, which is obviously denoted by their appearance; the cortical substance is red and congested; the Malpighian bodies being large and full: the redness of the cortical substance is in strong contrast with the whiteness of the tubular portion, which is caused by the abundance of epithelium with which the tubes are filled. If examined with a microscope at an early stage, we can see the epithelium quite filling the tubes. We thus obtain clear evidence of an irritated state of kidney, and we also know from the previous history of the case that there has been such exposure as would be likely to arrest the excretion by the skin; and thus we have very much the same conditions supplied as in dropsy from scarlet fever, namely, an irritated state of kidney, and an abnormal state of skin.

No doubt, the secretion of the skin being checked, the lactic acid which should have passed off by it makes its way out through the

kidneys, there acting as a source of irritation: it produces congestion, and this congestion so interferes with the function of the organ that the secretion ceases; the water that should be eliminated is not, but accumulates in the blood; and this watery blood transudes the parietes of the capillaries, while the particular portion of the areolar tissue into which it shall be poured—the subcutaneous—is determined by the irritated state of the skin, which attracts the blood to it in large quantity. The pathology of this form of dropsy is, then, in all essential points, the same as that of dropsy after scarlet fever.

Prognosis.—What *prognosis* should we be led to adopt in such cases as these? To this question I answer, that, on the whole, our prognosis may be very favorable: death is rare, unless the irritation of the kidney proceeds so far as to produce those extensive disorganizations that I have referred to; but, taking the ordinary class of cases, this kind of dropsy is not to be considered a formidable disease. But, in forming our prognosis, the previous condition of the patient must be taken into account. Often people have renal disease creeping gradually on them without any symptom of its presence, till, on a sudden exposure to cold, active congestion of the kidney is induced, and the secretion of that organ receives thereby a greater or less check: of course in such a case the ultimate danger would be much greater than if the kidneys had previously been in a perfectly healthy state.

In the fatty disease of the kidney, the first change takes place slowly and insiduously, and without a single symptom to indicate that anything was wrong with the kidney. There are many people at this moment walking about London, who would be very angry at being told that they were otherwise than healthy, yet with whom this disease is creeping on, and will ere long kill them. The deposit begins to be formed in a few sets of tubes; it gradually extends itself, producing partial congestion of the kidney. At first these congestions are not sufficient to affect the physical condition of the urine, which if examined at this period, would not afford the slightest indication of disease. By and by, some of the Malpighian bodies become so filled by the retardation of the flow of blood through them, that the serum filters through them, and passing off with the urine, makes it albuminous. This escape of serum offers some relief to the congested parts of the vascular system of the kidney; and if the cutaneous secretion is fairly kept up, and the digestive organs act normally, the patient goes on for a considerable time, sometimes, perhaps, for years—without being aware that there is anything wrong with his kidneys. But let any check to the perspiratory action of the skin take place, as from exposure to cold, and immediately the renal congestion becomes general, and dropsy occurs rapidly, and these symptoms show themselves the more rapidly and the more completely, because of the previously existing partially congested state of the kidney, and the more or less impoverished state of the blood.

Cases such as these are of very frequent occurrence in the London hospitals, and many of the instances of cured or relieved Bright's disease are of this description. The patient receiving the care and comforts of an hospital, his skin quickly resumes its normal action, the kidneys cease to be congested, the urine flows freely, and the dropsy disappears.

To enable you to arrive at a correct opinion as to the fate of a patient suffering from acute dropsy, you must look carefully to the state of the kidney, the liver, and the heart. You should examine the urine daily; for this purpose you will derive the greatest help from the miscroscope, not only on account of the rapidity with which it supplies you with the information you seek, compared with the slowness of chemical operations, but because you can determine by it the presence of various matters in the urine, which chemistry could not disclose to you; such as epithelia, casts, &c. By it you can recognise in two or three minutes, if they exist, blood-corpuscles, lithic acid, epithelium-cells, and pus-globules; and hence you may at once determine whether the smokiness is due merely to lithic acid, or to hemorrhage,—whether the kidney is in a desquamative state,—whether it has passed on to a suppurative—or whether its tubes contain fatty epithelium. Therefore, if you wish to obtain an accurate knowledge of the condition of your patient, learn to recognise all these substances by the miscroscope, and inspect the urine from day to day.

Now and then copious hemorrhage takes place, as I have said. How does this influence the prognosis? From my own experience I should say that, provided you spare your patient's strength, and do not subject him to too violent antiphlogistic treatment, you will find that this copious hemorrhage is not nearly so much to be dreaded as might be imagined,—not nearly so much so as the appearance of the pus-globules; if pus appeared in the urine I should look upon the case much more seriously. In fact, I consider it the most unfavorable circumstance that can occur; as long as you have mere hemorrhage the case is still hopeful, but once suppuration has taken place, especially if it be considerable, the probability is that the kidney has undergone disorganization to such an extent and of such a kind as will not admit of repair. The most remarkable case of renal hemorrhage that I ever saw was in a man admitted into this hospital about four years ago. He was passing daily red urine that could not be distinguished from pure blood, and this he continued to do for several weeks until he was completely blanched. I gave him large quantities of tannin, port wine, and nutritious food, and he ultimately recovered. And to show that the kidneys may undergo all this without suffering any disorganization, I have often since examined this man's urine when he has been in the hospital for other diseases, and I have invariably found it healthy; nor has he had a single symptom of renal disease since.

Treatment.—The very same principles of treatment apply to the management of these cases as to that of dropsy after scarlet fever.

The first and most important object should be *to promote the action of the skin.* We know that there is that sort of mutual relation between the kidney and the skin, that embarrassment of the one leads to embarrassment of the other; hence any relief to the irritated state of one affords great help to the restoration of the other. In the present case, the failure of the cutaneous action has embarrassed the kidney; hence the great thing is to promote free sweating, and this may be best done by the hot air-bath; or, if you fear its debilitating effects (which are to be taken into account in weakly subjects), you may substitute the warm bath.

Your next point will be to obtain relief to the congestion of the kidneys. This is in part effected by restoring the function of the skin. Local bleeding by leeches and cupping will do much in some cases, but little in others. Now and then, when your patient is plethoric and robust, you may, to save time and trouble, take some blood from the arm, but these, you must remember, are exceptional cases; *as a rule*, general bleeding is better avoided. One of the symptoms which would lead me to have recourse to general bleeding in a case of this description, is congestion of the lungs; but I would not adopt this practice unless the patient were young, robust, plethoric, and had been previously in a perfectly healthy state. And even in such cases, large venesections are much to be deprecated, as tending to debilitate your patient and weaken those processes of secretion to which you must look for his restoration to health.

3d. Purgatives, as indirect methods of relieving the congestion, are of great value; they eliminate water and various morbid matters.

4th. Sudorifics may also be employed, and of these the best is the liquor ammoniæ acetatis, in at least half-ounce doses, two or three times a day. This may occasionally be combined with tartar emetic. Dover's powder is generally less suitable, on account of the tendency of the opium to check secretion.

5th. Diuretics. When the congestion of the kidney has been relieved, diuretics may be given with advantage. Of all this large class, the best, I think, is the common cream of tartar, in doses of from half a drachm to a drachm frequently during the day. If you give larger doses it acts on the bowels, and being carried off by them, does not prove a diuretic. Digitalis, with due precaution, is also very useful.

Irritative diuretics (as cantharides, squills) must be avoided in cases of this kind, for obvious reasons, although they are very serviceable in other forms of dropsy. Broom tea, or the compound decoction of broom of the Pharmacopœia, is also useful; and the latter probably derives some advantages from the taraxacum which it contains. The diuretics first mentioned, however, are unquestionably the most to be relied upon, and the most efficient.

There is one thing that I must caution you against in the treatment of acute dropsy, and that is, the use of mercury. This mineral, so valuable in some diseases, is in these cases useless and even mischievous; at any rate I have failed to observe any benefit from it. For these reasons it is better to abstain from its employment, unless occasionally you may have recourse to it as a purgative. But even for this purpose there is no absolute need for you to use it, as there are many other medicines which answer as well, if not much better. Moreover, in all cases of imperfect action of the kidneys, whether acute or chronic, patients are quickly salivated, and the salivation is very apt to prove troublesome and painful; large sloughs form in the mouth, and the fætor of the breath becomes intolerable to both the patient and his attendants.

Art. 7.—*On Muscular Rheumatism.* By M. Valleix.

(*Brit. and For. Med.-Chirurg. Rev.*, Jan. 1849, from *Bulletin de Thérapeutique.*)

The essential character of this affection is *pain*, and no anatomical lesion belongs to it, unless it becomes complicated with other affec-

tions. It possesses various analogies with neuralgia, and the two affections may be easily transformed into each other. If the pain remain concentrated in the nerves, we find isolated, characteristic, painful spots—a *neuralgia*, properly so called. If it spread to the muscles, the contractions of these are especially painful, and *muscular rheumatism* is present; while, if it extend to the skin, we have a *dermalgia*. All these forms of the same affection may unite together, or by two and two.

The *diagnosis* of *acute* muscular rheumatism from inflammation is generally easy, owing to the absence of the well-known signs of the latter. It becomes more difficult when the muscles over a joint are those affected; and on no account can the identity of muscular and articular rheumatism be admitted. In respect to its diagnosis from neuralgia, it may be observed that it is much more rare to mistake a rheumatism for a neuralgia, than the reverse. In rheumatism, the pain and tenderness are more diffused, and are found rather at the attachments of muscles than in the course of the nerves. Muscular action causes an amount of suffering altogether disproportionate to the other spontaneous or excited pains; while in neuralgia the reverse is generally observable.

Prognosis.—*Chronic* muscular rheumatism is more obstinate than chronic neuralgia; while exactly the reverse is true of the *acute* form. However severe, it is rare to see it continue longer than a week; while neuralgia may persist, with all its original severity, for weeks or months. Rheumatism is generally a far less serious affection than neuralgia; it does not produce the same perturbation of the economy, and is more easily dissipated. The same is true of the *chronic* form, for we only now and then see paralysis of one or several muscles result; while the subject of neuralgia not unfrequently continues to lead a miserable existence, deprived of the use of his limbs.

Treatment.—These two diseases have too often been treated alike, and with great mischief to the subjects of them; for while bleeding may benefit rheumatism, it is very hurtful to neuralgia; and flying blisters and intercurrent cauterization, so useful in acute neuralgia, are of little avail in rheumatism. In *chronic* cases, hydrotherapeia, shampooing, and thermal waters are more useful in rheumatism than in neuralgia: but in this stage the treatment of the two diseases approximates much more than in the acute one.

Among the different species of muscular rheumatism may be noticed that which affects the *muscles of the head;* sometimes the occipito-temporal, the masseters, or temporals, and at others the muscles of the eyes or cheeks being those which suffer. This pain is distinguished chiefly by the exacerbation which is produced by causing the sudden movement of the muscles affected; furnishing a far stronger contrast with the spontaneous pain than is the case with other pains of the head, as well as by being limited to the muscles in question. This form best yields to the external application of the *cyanide of potassium;* and of all forms of cephalalgia it is that which is least benefited by blistering the nape, so indiscriminately resorted to. This rheumatism of the head is found also generally worst on rising in the morning, especially in *moderately* cold and damp weather. This is attributable

to the parts having been exposed to the cold during the night (from which they would have been protected in *very* cold weather), and the simple precaution of covering them with a cap or handkerchief has not unfrequently relieved pains which have long obstinately persisted.

Besides a *torticollis*, rheumatism may show itself in the cervical region in the form termed by the author *cervicodynia*, in which there is a very variable amount of dull pain felt along the cervical region, and even extending to the epicranial muscles. It is much aggravated by stretching the head backwards, or keeping it bent forwards. It is easily transformed into a neuralgia, and may become confounded with this, as it may with congestion of the brain, when it extends to the pericranial muscles. The most successful means are, sea-water baths, cold affusion, cupping, and acupuncture. When the affection becomes chronic it is very obstinate.

One of the most obstinate forms of muscular rheumatism, as also one of the most important, as it may lead to *paralysis of the deltoid, is rheumatism of the muscles of the shoulder.* In its acute form it is distinguished with difficulty from articular rheumatism or acute arthritis. In its chronic form it sometimes induces the above-named paralysis. Several cases are related by authors, in which paralysis supervened on painful affections of the shoulder; but these are, for the most part, too imperfectly reported to enable us to judge whether this arose from chronic muscular rheumatism or inflammation. Others are more explicitly detailed, and two of these are quoted by the author, in which acupuncture, after the failure of other remedies, effected a cure.

SECT. II.—DISEASES OF THE NERVOUS SYSTEM.

Art. 8.—*On Ramollissement of the Brain, and its Effects upon Life and Intellect.* By Dr. Forbes Winslow.

(*Journal of Psychological Medicine*, July 1849.)

This interesting subject is considered by the author under the following divisions:—

1. The pathological character of the disease.
2. Its seat.
3. Its causes.
4. The period of life at which it occurs.
5. Physical and mental symptoms.
6. Treatment.

Ramollissement of the brain is defined by Lallemand to be a "*liquefaction* of a portion of the cerebral substance, the remainder preserving its natural consistence." The softening may vary in degree,—from natural consistence to that of thin cream. In its minor degree it may be overlooked, the cerebral matter being less coherent, but not as yet broken down. It may be washed away, however, by letting a

stream of water fall upon it. It is a *vexata quæstio* whether this softening is a disease *sui generis*, or the result of inflammation. The author does not think it necessary to detail the arguments adduced on both sides, but contents himself with stating the results to which modern pathologists have arrived. Quoting Abercrombie, he states that softening may occur under two essentially diverse conditions. Rostan's cases, considered by him to be an affection *sui generis*, occurred in aged persons, and the softening was generally associated with paralysis and apoplexy. In many cases the softening surrounded old apoplectic cysts. The inflammatory softening, spoken of by Abercrombie, was seated in the more central parts of the brain, the fornix, septum lucidum, and corpus callosum being implicated. These cases occurred in early life. This author in his attempt to reconcile Rostan's views with his own, observes, that the softening of the cerebral matter is analogous to gangrene in other parts, and may, therefore, be either the result of inflammation, or of a *starvation* of the brain, caused by a diminished supply of arterial blood. The softening described by Abercrombie, is said to be of the first kind; that of Rostan, of the second. Dr. Hughes Bennett, by the aid of the microscope, is enabled to distinguish between the inflammatory and non-inflammatory softening. The former is said to be characterised by exudation-corpuscles, which are never found in the latter.

Softening is not confined to one portion of the brain, but most frequently affects the thalami and corpora striata. This is shown in a table of 117 cases collected by Andral.

The *causes* of this condition of brain are various. In the inflammatory form affecting young persons the disease is generally the result of those causes which develope inflammatory action, and often follows mechanical injury, or is an extension of disease from the internal ear. The more frequent causes of the affection (without reference to age, are physical injury to the head, exposure to heat or cold, defective nourishment, syphilis, abuse of mercury, excessive venery, or self-abuse, intoxication, retrocession of cutaneous eruptions, &c. The moral causes are anxiety of mind, and overstrained mental functions. The diseases with which ramollissement of the brain is frequently associated are, valvular disease of the heart, aneurism, gout, &c.

In considering the *symptoms*, the author first notices those which are precursory, confining his attention to the disease as it appears in the middle and advanced periods of life. Attacks of acute ramollissement are generally preceded by symptoms indicative of the consecutive progress of inflammatory affections of the brain. The author believes that the softening may be the effect of congestion alone, and he therefore thinks it of the highest importance to detect the earliest approach of this.

In the majority of cases the first symptom is headache,—either alone, or conjoined with vertigo, increased heat of the scalp, irregular action of the superior palpebral muscles, double vision. Following these symptoms we have a sense of numbness, accompanied with irregular action of some of the voluntary muscles. The patient will complain of loss of general muscular power; and is fatigued more readily than common. This is followed, sooner or later, by more decided weakness

in a limb, the ankle-joint giving way in walking, as if from relaxation of the ligaments. As the disease advances the speech becomes affected. In reference to this symptom the author notices, that before the voice becomes husky or tremulous, there is a *loss of voluntary power over the ideas*, and an inability to pronounce certain letters of the alphabet, particularly the letter R.

The mental symptoms are shown in a loss of memory, of the power of attention, and change of temper. Whenever the brain has been overworked, a deficient memory of recent events requires immediate cessation from mental exertion. The symptoms, however, which the author lays most stress upon is the loss of voluntary power over the ideas, and the disposition to substitute one word for another. This symptom is often precursory of paralysis.

The softening, more especially connected with mental derangement, the author regards as a disease *sui generis*, and different from the form which is followed by coma, or lesions of the motor power. It is not confined to advanced years, and often exists for a long period, independently of paralysis of the extremities. In these cases the softening is generally found to be situated in the cortical portion. The lesion, when observed in early life, has, in the author's experience, invariably been consequent upon excessive mental labour, or anxiety of mind. The incipient mental symptoms are generally a weakness of mind, depression of spirits, disposition to cry, confusion of ideas, and weakened memory. The disease is illustrated by the following cases :—

A physician, who had been engaged for twenty years in active practice, had been subject for a few years prior to his attack, to an unusual degree of mental excitement and hard work. The first symptom which he manifested was his mistaking the names of two sisters whom he attended. Before the confusion of mind attracted the patient's own attention his wife had observed an alteration in his manner, which made her fearful that he was overstraining his mind.

In another physician of eminence, the first alarming indication was an unusual degree of solicitude in reference to the accuracy of his prescriptions, frequently writing and re-writing them, repeating questions to his patients, and forgetting the names of his intimate friends. Conjoined to this was great irritability of temper.

A gentleman, æt. 25, after intense application in reading for hours, was noticed one day to manifest an extraordinary degree of risibility, quite uncalled for by circumstances. He subsequently became sullen and depressed, taking little notice of anything. He was consigned to an asylum, and eventually became perfectly imbecile.

The treatment is next considered. If the mental impairment be early recognised, and prompt measures be adopted, the disease may be in the majority of cases cured. The great remedy is REST FOR THE BRAIN, and as a sequence for the MIND. Without this nothing can be done. The medical treatment consists in a judicious adoption of those means which are calculated to restore a fibrinous or plastic state of the blood, and to promote its healthy circulation in the brain. The patient should live generously, and the digestive functions should be improved by gentle alteratives, tonics and stimulants. Rubefacients and the shower-bath are useful auxiliaries. Small doses of phosphorus have been found useful.

Art. 9.—*Treatment of Epilepsy.* By Dr. R. B. Todd.

(*Medical Gazette*, 1849, p. 843.)

In the general treatment of epilepsy, the practitioner must ever keep in view the three following objects: first, to remove sources of irritation, of disturbance of general nutrition, and, consequently, of contamination of the blood; secondly, by hygienic and moral means, to promote a healthy frame of body and mind; and, lastly, to find, if possible, some means of preventing the access of the fits, with a view to breaking the habit of their frequent periodical recurrence.

I need not extend this already too long lecture by enlarging upon the various means by which peripheral sources of irritation or of contamination may be removed. It will be the duty of the practitioner to investigate with great diligence all the functions—digestive, sexual, that of the circulation, the skin, the kidneys,—and direct his special attention to such as may indicate a deranged state.

To enforce a good system of hygienic and moral rules, it is absolutely necessary that the practitioner should demand and obtain a complete control over his patient. He should regulate with the utmost precision the ingesta, both as to quality and quantity—the times of rising and of retiring to rest—the hours of sleep—the time of meals—the amount and period of exercise—the amusements—the nature and amount of study; and the aim of his hygienic system should be to invigorate the nervous system, and to promote by every means a healthy and vigorous nutrition: while that of his moral management should be to tranquillise the mind, to encourage hope, and to promote cheerfulness. It is from such a system, faithfully carried out and diligently enforced, that the greatest good may be anticipated for the epileptic patient.

To find some means of checking or of postponing the fit, is an object of great importance. In general, the nervous system and the mental functions suffer most when the fits are most frequent. If, then, the fits can be considerably reduced in number,—if, as it were, they can be kept at bay,—surely the patient cannot fail to be a great gainer.

Shortly after the anæsthetic powers of sulphuric ether became known in this country, and after I had satisfied myself, by the experiments which I referred to in a former lecture, of its great power in depolarizing the nervous centres, or preventing them from assuming a highly polar state, I determined to ascertain what influence its inhalation in the same manner as for surgical operations might have in checking the access of the epileptic paroxysm, or in diminishing the excitability of the nervous system. Although I have since learnt that about the same time it was tried in France, I was not aware of these trials at the time, nor have I since seen any satisfactory account of the results of them.

The first case which presented itself was one of epilepsy, in which the fits were preceded and followed by mania. The patient was a young girl, aged 17: the fits were of frequent occurrence,—twice a week, and she was subject to them for seven years. Within the last year the fits were accompanied by the maniacal state. This girl had been in a maniacal state for six days prior to her admission into the

hospital: she was very violent, attempting to bite every one who came near her. She had even bitten herself.

In this case I administered ether on a sponge, holding it tightly over the mouth. The effect, to my great astonishment, and that of the bystanders, was instantaneous. Within a minute, noted by the watch, the patient fell off into a profound and placid sleep, which lasted eight minutes. She then awoke, and seemed disposed to be as violent as before. It was necessary to administer the ether five times, after which prolonged sleep was produced. She slept well that night, and from this time became quite manageable and controllable; she continued for three or four weeks in the hospital, and although she had two or three fits, there was no return of the maniacal state.

I have since had many opportunities of administering ether, and subsequently chloroform, in cases of epilepsy. The cases which I have selected have been those in which, as in the case just related, the paroxysms have been accompanied by mania, or in which the paroxysms have been of frequent occurrence—daily, several times in a day, once or oftener in a week. In these cases I have administered chloroform daily, often twice, sometimes three times a day, and always producing the full effect. I have not met with any instance of untoward result in some twenty-five cases; and the general conclusion at which I have arrived is this, that the frequent administration of the chloroform does no harm to the brain, and that it undoubtedly diminishes the frequency of the fits, and exercises a very marked control over the maniacal state.

I have given it in cases in which there could be no doubt of the existence of organic disease within the cranium, either meningeal or cerebral, and with decided benefit. One old man, who had all the symptoms of diseased cerebral arteries, with, perhaps, some amount of white softening, and severe epileptic fits, was distinctly the better for the inhalations, and became more intelligent, and his fits less frequent.

In puerperal convulsions, chloroform may be administered with advantage. I know of several cases which occurred in the practice of others, in which the fit yielded to the influence of the chloroform. My friend Dr. Simpson, of Edinburgh, informs me that, among upwards of two hundred women whom he had delivered under chloroform, he has had no case of convulsions. In the epileptic convulsions of children also it may be used. Shortly after I began to use ether in epilepsy, my friend Mr. Ceeley, of Aylesbury, informed me that he had tried it with decided success in a case of infantile convulsions; and Dr. Simpson tells me that Dr. Robertson, President of the College of Physicians in Edinburgh, has administered chloroform in infantile convulsions with great success.

The administration of chloroform in epilepsy requires further clinical research. Upon this subject I am at present engaged, and hope, at some future period, to lay my results in a detailed form before my professional brethren. Perhaps some other anæsthetic may be found better suited to epilepsy than chloroform. I am not without hope that some anti-epileptic agents—valerianic acid or valerianates—may be more efficaciously administered through the inhalation of chloroform than by the mouth. Mr. Savory, of Bond Street, has sent me some

specimens of valerianates held in solution by chloroform; but whether these substances will volatilize with the chloroform so as to admit of their introduction into the system in sufficient quantity, I have yet to learn.

Art. 10. *Strychnine in Chorea.*—M. Trousseau treats chorea by the use of a preparation of the sulphate of strychnine. Of this they prepare a syrup in the proportion of four fifths of a grain of strychnine to three ounces of simple syrup. In children from six to twelve years of age, he commences with six teaspoonfuls during the day; in more advanced age, the dose is a dessert-spoonful six times a day. The doses are equivalent in the first case to thirty, and in the second to fifty grammes of the syrup, twenty grammes of which contain one seventh of a grain of strychnine. These doses were increased or diminished according to the effects produced. Under the use of the remedy, a distinct rigidity of the jaws, neck, and limbs is produced; but the author has found that these physiological symptoms are the forerunners of the yielding of the disease, and they therefore advise the continuance of the medicine until they are induced.

L'Union Médicale, June 1849.

Art. 11.—*Treatment of Tetanus.* By Dr. R. B. Todd.

(*Medical Gazette*, 1849, p. 766.)

Hitherto the various plans of treatment pursued in tetanus have received but a small amount of success. I am inclined to attribute their failure partly to the fact that practitioners have not sufficiently kept in view the important point, that death takes place, not by any disorganization of important vital organs, nor by the destruction of processes essential to life, but by the exhaustion consequent on the frequent renewal of the paroxysms of tetanic convulsion; and partly, also, to this fact, that our treatment has been hitherto so empirical, that no definite plan seems ever carried out with sufficient fixedness of purpose in a sufficiently large number of cases.

The pathology and clinical history of tetanus point out three objects which the practitioner ought constantly to keep in view in the treatment of it.

1. To support the strength of the patient as much as possible, so as to oppose the exhausting effect of the convulsive paroxysms.

2. To remove all possible sources of irritation or of depravation of the blood, in vitiated secretions, bad diet, impure air.

3. To diminish and reduce the exalted polarity of the nervous centres to their normal condition, and, if possible, to effect this by means which will not exhaust or reduce the powers of the patient.

Now, the first indication is of primary importance. If the patient can be duly supported we gain time, and we have abundant proof that the natural powers of the system are often capable of doing the rest without any assistance from art.

To accomplish this object, the practitioner should set himself diligently to devise means of giving nutriment and stimulants in the

manner in which they may be most readily assimilated. As a general rule, this may be done best by giving them frequently, and in small quantities; and it is wonderful how much may be taken in this way if they are only administered with care and judgment.

Any process of depletion, by loss of blood, or by evacuants of any kind, carried to a great extent, would be highly objectionable, as being calculated to oppose the object in view.

In addition, then, to the various articles of food best adapted to the assimilating powers of the patient, and also to wine or other alcoholic stimulants, the practitioner ought not to withhold the liberal use of quinine, ammonia, iron, or other drugs, which experience tells us exercise a tonic power over the system in general; and he may give them in large doses.

The second point may be best attained by means calculated to promote the various natural secretions, especially those of the bowels, skin, and kidneys. But in administering remedies for these objects, care should be taken not to use those of a violent and irritating nature: drastic purgatives should be avoided; too profuse sweating or diuresis should be guarded against; and the practitioner should bear in mind that the object is to alter and improve, not to pull down.

To obtain the third object, namely, to reduce the polarity of the spinal cord, is at once the most important and most difficult. The various sedative remedies—opium, hydrocyanic acid, belladonna, conium, tobacco—have been fairly tried and failed. Opium is not a sedative to the spinal cord; its use in tetanus may be laid aside, excepting in small doses as a sudorific. In cold-blooded animals it exalts the power of the spinal cord, and it is not impossible that in warm-blooded animals it may have a similar tendency; it is, therefore, a remedy of little value in tetanus, save as a sudorific, and in large doses it may be of an injurious tendency.

Neither is hydrocyanic acid a sedative to the spinal cord; on the contrary, it tends to produce epilepsy, and to excite the polar state of the cord by induction from the brain.

Belladonna has a decidedly sedative influence; but it disturbs the action of the brain so much, that it is not a safe or manageable remedy. The same may be said of conium. Tobacco undoubtedly reduces the polar state of the cord, but it produces at the same time a state of fearful depression. It is likewise an unsafe and not a manageable remedy. I have seen more than one patient die, *cured* of tetanus, under this remedy.

There are two agents which certainly exert a considerable power over the polarity of the spinal cord which have not yet been tried sufficiently fairly, and which I think fully deserve to be put extensively to the test of experience. These are—cold and chloroform.

Of cold I can speak favorably from my own experience: I have tried it by the application of ice in ox gullets to the spine, taking care to renew them frequently. I have adopted this practice in tetanus, and in convulsions in which the spinal cord was much involved, and in other more partial states of exalted polarity of the spinal cord, and with a sufficient amount of success to justify me in forming a very favorable opinion of the powers of cold as a depolarizing agent.

In order to give the remedy a fair trial, great vigilance is required on the part of the attendants of the patient to renew the bladders very frequently, otherwise they become elevated to the temperature of the body. This should never be permitted, as it is only by the long-continued application of cold that the spinal cord can be reached by it.

Another point which the practitioner who uses cold in this way must keep in view is, that when the cold fairly reaches the cord, its influence is shown by a marked depression of the action of the heart, which leads to general depression and debility. During the application of the bladders in this way, increased vigilance will be necessary in the administration frequently, and at short intervals, of nutritious and stimulant substances.

Sometimes the depression of the heart's action reaches a point below which it would be unsafe to suffer it to go. Under these circumstances the ice must be removed, and kept off until the heart in some degree recovers itself, when it may be resumed. Thus, by removing and reapplying the bladders from time to time, the influence of the cold may be kept up sufficiently long to produce a favorable effect upon the cord without producing such an amount of depression as may operate to the disadvantage of the patient. But, to carry out this plan, great vigilance, and care, and judgment will be needed on the part of the practitioner, in order that all precautions may be duly observed, and that the patient may be encouraged to persevere in the use of a remedy which involves some degree of personal discomfort.

Of chloroform in tetanus or tetanoid affections I have no experience. Two years ago, however, I performed some experiments, by which I satisfied myself that the analogous agent, ether, when introduced into the system by inhalation, exercised a most powerful controlling influence over the polar state of the cord, as induced by strychnine.

In these experiments I found that previous etherization retarded the polarizing influence of the strychnine; and that, after poisoning by strychnine, life might be prolonged for a considerable time by the administration of ether.

A guinea-pig was thrown into tetanus by a quarter of a grain of strychnine: immediately the tetanic symptoms showed themselves, he was etherized; the state of tetanus immediately passed off; in a short time, however, it recurred, and was again controlled by ether; and by thus repeatedly etherizing the animal when the tetanic symptoms reappeared, life was prolonged for many hours, whereas another animal of the same size, and poisoned at the same time by the same dose, but not etherized, died rapidly.

These experiments, illustrated in a very striking manner the antagonistic power which ether (and chloroform, as possessing identical virtues) can exert over the polarity of the cord. The great point which ought to engage the attention of practitioners in the application of these agents to the treatment of such cases as Tetanus, is to know how to avail themselves of its depolarizing power, and at the same time to guard against the injurious effects of its depressing influence. Chloroform weakens the force of the heart,—sometimes diminishing, at other times increasing the frequency of its action. Hence, while administering it in tetanus, we shall find it necessary to use with in-

creased diligence the means calculated to uphold our patient's strength; and we must take care that the sleep of chloroform does not prove to him the sleep of death, by depriving him too long of those supplies which alone can counteract the destructive asthenia.

In the absence of any experience of the use of chloroform in tetanus, I should advise that a patient be not kept under its influence for any length of time, and that if, after the administration of it, and after its more profound effects have passed away, he should continue to sleep, the sleep should be interrupted at intervals of an hour or of half an hour, according to his strength, in order to administer support. If the patient does not sleep after the administration of the chloroform, and if the effects pass off, then it should be administered a second time, and a third time; after which several hours should elapse before it is again administered, and then it should be given in a similar manner, taking care that it be given not more frequently than at three, or, at most, four different periods in twenty-four hours.

ART. 12.—*Tetanus, Chloroform, Recovery.* By GEORGE SLOMAN, Esq., Farnham.

[Instances of recovery from traumatic tetanus are so rare that we regard the following case as one of especial interest.]

George Alderton, æt. 45, agricultural labourer, was run over by a cart on 27th of June, and received a severe cut on the ear, injury to the neck, and fracture of the right clavicle. The requisite surgical treatment having been adopted, he progressed favorably until fifteen days after the accident, when he complained of pain in the neck and chest, for which he was ordered colchicum in mixture. The next day, July 13, the pain had increased, and stiffness of the jaws was superadded; this increased, and in a few hours general spasms supervened, which, on the 15th, were severe, inducing complete opisthotonos, and inability to swallow liquids. Chloroform was given by inhalation, and with most satisfactory effects for the first few times; but after a while it appeared to lose its influence over the spasms, and morphine and calomel every three or four hours were substituted. Under this treatment he steadily improved, and all traces of spasms subsided on the seventh day from their first appearance.

Prov. Medical and Surgical Journal, Sept. 5.

ART. 13.—*Case of Anæsthesia and Paralysis of the Right Side of the Face.* By W. R. ROGERS, M.D.

(*Medical Gazette*, April 27.)

J. W., æt. 27, a light porter, robust habit, and of middle stature; came to London in September, 1846, and remained in perfect health until September of the following year, when an eruption made its appearance upon the head and face, which was, however, removed by suitable treatment. At the commencement of March, 1848, after having got very wet, he was attacked with giddiness, deep-seated and shooting pain in the right temple, with deafness and buzzing in the

corresponding ear, in front of the cartilage of which was also great tenderness on pressure, and a puffiness of the cheek. These symptoms were accompanied by a gradually increasing anæsthesia of the right side of the face, which, after having extended to the utmost, reached from the middle line of the forehead, nose, and upper lip, backwards to the ear and ramus of the jaw, being limited above by the attachment of the temporal muscle and belly of the occipito-frontalis, and below by a line drawn horizontally backwards from the angle of the mouth; so that the lower lip, and that portion of the face corresponding to the body or base of the inferior maxilla, were entirely unaffected. The constitutional symptoms were those of high fever, shiverings, alternating with flushings of heat, dryness and heat of skin, cold extremities, full and quick pulse, tongue white and furred, with considerable thirst; urine scanty, and high-coloured. Six leeches were applied to the right temple; calomel, followed by a brisk cathartic; after which a blister was applied to the nape of the neck, stretching up to the right ear; salines were freely exhibited.—Low diet.

Under this treatment the violent and throbbing pain of the head and temple ceased, the buzzing in the ear diminished, and hearing began to return, as well as sensation gradually to the face. The puffiness visibly decreased. These good effects occurred within a week or ten days after the commencement of treatment. Permission was granted to go out; but on calling the following day to visit my patient, I found a state of things which I had not anticipated. The pain in the temple had returned, which he described as most violent and deep-seated. The conjunctiva of the right eye was now greatly inflamed, but unaccompanied by the slightest sensation of pain; loss of motion was added to a return of the anæsthesia which he before complained of; still confined to the same limits. The mouth and nose were distinctly drawn to the left side; the upper eyelid could not be raised, and was glued to its fellow by thickened secretion: the tears rolled over the cheek; the right nostril was dry, and insensible to stimuli or odours, and felt to the patient as if stuffed. The right half of the palate was deficient in sensation, while the sensation, motion, and taste of the tongue remained unaffected. The loss of motion did not extend lower down the face than the boundary already mentioned as limiting the anæsthesia. The febrile symptoms also had returned. Six leeches were again applied to the temple, and an equal number to the eye, to arrest the conjunctivitis. A large blister was again applied to the nape of the neck. Cholagogue purgatives were again administered, and the eye was ordered to be fomented with decoction of poppies.

Next day the pain in the head had much abated; there was less noise and buzzing in the ear, but the inflammation of the eye was not lessened; the anæthesia and paralysis still persisted; and, notwithstanding the existence of active inflammation in the eye, no sensation had returned to it. The sclerotic and iris were not implicated up to this period, the latter being responsive to the stimulus of light. Three leeches were reapplied to the eye, and a blister behind the ear,—

saline purgatives and diuretics continued. Next day the inflammation of the eye appeared less active; the leeches and fomentations were ordered to be continued, with the constitutional treatment. The passage to the right nostril remained closed and dry: for some days longer this treatment was persevered in, but little progress was made; so that I was induced to drop a weak solution of nitrate of silver into the eye. This application increased the inflammation, and immediately a slight haze appeared on the cornea, which, in a day or two, spread and formed an ulcer, the lower margin of which was tinged yellow; and, although the leeches, fomentations, and blisters were continued, no good effect appeared to be produced; the anæsthesia and paralysis still remaining, although somewhat lessened. The eye daily lost ground, the deeper tissues becoming affected; the iris being partially involved in the inflammatory action: even before the inflammation had thus extended mercury was administered three times a day, and was pushed forward immediately on the iris becoming implicated, and soon evidenced its presence in the system by the fætor of the breath. Iodide of potash, combined with a bitter tonic, was employed, with full diet, to support the system, and Dover's powder at night to procure sleep. I now requested my friend Mr. Quain to see the patient with me, who recommended a continuance of the treatment already adopted, especially the mercurial part. At a subsequent visit, as the inflammation was wholly unsubdued, cupping was advised, but it was attended by no apparent beneficial result. During this time the mercury never caused salivation, though its fætor was to be found in the breath; under its use sensation began to return, and the paralysis was much lessened; the traction of the mouth and nose to the opposite side being less perceptible. The eye still continued inflamed, and a puriform fluid, in three distinct spots, had appeared between the layers of the cornea, which gradually coalesced and filled up two thirds of it. Vision was now wholly lost: the mercury was immediately discontinued, and, in its place, quinine and opium were exhibited. The fomentations, leeches, and iodide of potassium, were persevered in. About this time the patient began to feel a dull pain in the brow, and could slightly lift the upper lid. A solution of watery extract of opium was now dropped into the eye twice daily, which, after some days, began to be felt heating to it. After three weeks' perseverance, the puriform deposit, which was never surgically interfered with, discharged itself externally, the iris becoming more natural in colour. The inflammation, which was so long intractable while the anæsthesia and paralysis remained, with returning sensation of the eye appeared to become daily more amenable to treatment, and lessened gradually; the cornea becoming less hazy, the pupil less angular, though it has never returned to its natural condition. For some time back the patient's health was much improved by the tonic treatment, but during his recovery, at three several times, fresh attacks of slight congestion occurred in consequence of exposures; these were, however, subdued by fomentations and solution of opium. His illness, up to complete recovery, lasted ten weeks. He is at present in perfect health; his sight, for which I had long entertained serious fears, has been wonder-

fully restored, and the opacity of the cornea is almost entirely removed, though the iris, as I before mentioned, has not regained its natural size or form.

With reference to the pathology of the case, it may be asked—1st, Could the eruption which twice occurred about the head and face have in any way predisposed to the subsequent affection? 2d, What were the pathological conditions, centric or eccentric, giving rise to the anæsthesia, which evidently affected all the branches of first and second divisions, and the temporo-auricular branch of the third division of the fifth? And, thirdly, what were those giving rise to the paralysis of the muscles supplied by the superior division of the seventh nerve accompanying the relapse of the anæsthesia with inflammation of the eye, which had not previously existed? From a consideration of the symptoms indicating the particular nerve-trunks especially involved in the morbid action, it would appear more reasonable to suppose that the latter was eccentric rather than centric; although the writer is aware that an inflammatory action may be set up in one part or division of a nerve as it emerges from the brain, giving rise to paralysis or anæsthesia, as the case may be, in the parts to which it is distributed. Yet as the inflammation in the case just cited was diffusive in its character, it does not seem probable that the fibres which ultimately emerge in front of the ear, as the temporo-auricular nerve, should be so wonderfully singled out from the other nerve fasciculi composing the lower division of the inferior maxillary nerve, by an inflammation having a central situation, and engaging the origin of the fifth nerve. And again, it is unreasonable to suppose that the common trunk of the seventh nerve should be affected centrically, and only give rise to paralysis of those muscles to which its upper division was supplied. Besides, the acute pain felt on pressing the parts in front of the cartilages of the ear, where a slight induration or kernel remains still perceptible to the touch, would further support the conjecture of an eccentric origin to the symptoms; for the temporo-auricular nerve in passing to the surface is enveloped by a portion of the parotid gland in the back part of the glenoid cavity, and some lymphatic glands lie in the immediate vicinity of the upper division of the fascial nerve, so that it would be easy to imagine that inflammation of those parts would involve the nerves just mentioned, which are besides connected with each other by distinct nervous twigs; and an extension of the morbid action, inwards and upwards, by the cellular tissue in the zygomatic and pterygo-maxillary fossæ, might engage—1st, the superior maxillary nerve and Meckel's ganglion; and next, the ophthalmic nerve, which, although it passes directly from the cranium to the orbit, nevertheless is uncovered by bone, where it lies over the pterygo-maxillary fossa. The external pterygoid muscle forming a septum or barrier between the inferior maxillary nerve, and the other divisions of the fifth preventing the inward progress of the inflammation in that direction, on this supposition would fully account for the immunity of the inferior maxillary nerve, admitting that its temporo-auricular branch was superficially engaged.

There was an interesting circumstance which was not mentioned in

detailing the case,—namely, a loss of motion in the levator palpebræ superioris, which resulted from the inflammatory action, causing pressure to be exerted on the filaments of the third nerve supplying the muscle conjoined with the loss of conjunctival sensibility. A precisely similar case is narrated by Sir Charles Bell, in his splendid work on the Nervous System. It must not be supposed that the inflammation of the eye in this case depended on evaporation of the exposed conjunctiva in consequence of the paralysis preventing the closure of the orbicular sphincter. It arose synchronously with the paralysis from direct exposure to cold at the relapse. Inflammation of the eye attending paralysis of the portio dura is very gradual in its accession.

In similar cases to the preceding, it becomes of some moment, with regard to prognosis, to be able to diagnose its centric or eccentric origin; whether it can be traced to a simple cold producing inflammation, as in the present case; or whether it arises from a tumour or other cause pressing upon the origin of the nerve, or from disorganization in some part of its course, either within or without the cranium. I need not say that the latter class of cases are almost hopeless as to treatment.

SECT. III.—DISEASES OF THE RESPIRATORY SYSTEM.

ART. 14.—[*Abortive Treatment of Coryza*: In confirmation of the usefulness of the plan of treatment first proposed by M. Deschamps (Abstract, Vol. VI, p. 39), and since noticed by Dr. Lockwood, U.S., (Abstract, Vol. IX) Mr. Pretty writes as follows:—]

I have for a period of two years adopted a plan of treatment more easy, and with much success, and which I imagine would be less objected to by patients—viz. the injecting the nostrils with a solution of sulphate of zinc (about gr. iij to ℥j. of water). I order the patient to fill a 1 oz. pewter male syringe, and inject each nostril once or twice, and whilst doing so to stoop over a basin. When the injection has been used at the commencement of titillation in the nostrils, I have found it cut short the attack. If the complaint have proceeded further, I have found it better to wait for the vessel's commencing disgorgement by the discharge, for if not, the injection causes for a few seconds aching about the frontal sinuses, and does not prevent the discharge occurring. Usually injecting the nostrils once is sufficient; the discharge may, however, return, when the injection will be again required. Sometimes the nostrils in severe cases have to be injected three or four times.

When a patient complains of coryza, and is unable to get rid of it, I have found the injection stop a discharge which has existed for several days in ten minutes. In such cases, with a relaxed state of the Schneiderian membrane, the utility of the injection will be most marked; and it is exactly in these cases that the fluid plan of treatment will be found injurious.

Great susceptibility to coryza may arise from an atonic state of the vessels of the pituitary membrane, besides a relaxed state of system and increased perspiration. If under these circumstances the injection be used, this liability to nasal catarrh will be greatly removed.

The usual prophylactic treatment can at the same time be most advantageously employed—viz. curtailing the amount of fluid, not allowing any to be drunk hot: using the flesh-brush and tepid or cold bathing where admissible.

When a tendency to phthisis exists it is most important to guard against cold, for with coryza the lungs may suffer from inflammation descending from the Schneiderian membrane, or from respiration being confined to the mouth.

The nose is Nature's "respirator," and when its lining membrane is too swollen to allow of breathing through it, the air passing unwarmed to the larynx, proves an additional excitant to disease. Frequently persons with severe coryza, after having been confined to a warm room during the day, retire to a cold bedroom for the night: they cannot as usual breathe through their nostrils, and, if something be not kept over the mouth, they often awake with a sore throat and cough. At such a time, a respirator worn at night is most useful in preventing these.

When an instrument of this kind is required, I would recommend to the notice of the profession, Mr. Rooff's Inspirator, for the easy respiration it permits, producing a warm moist atmosphere, without becoming clogged by moisture. Another advantage in its construction is the use of very fine tubes instead of wire gauze, and a valve for preventing the expired and inspired air commingling; and thus a supply of pure air is ensured.

Medical Gazette, July 13, 1849.

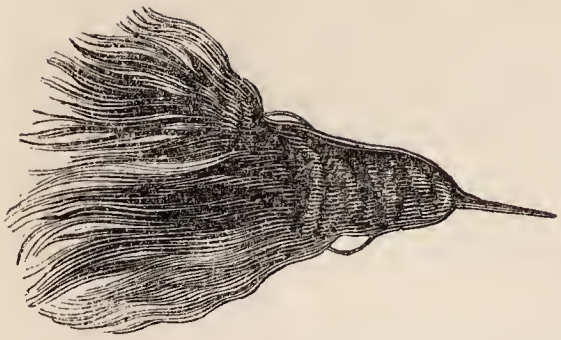
ART. 15.—*Accidental Introduction of a "Puff-Dart" into the Left Bronchus, followed by Abscess; and its Expulsion during a Fit of Coughing, enveloped in Pus: complete Recovery.* By R. S. NUNN, M.R.C.S., Surgeon to the Essex and Colchester Hospital.

(*Prov. Med. and Surg. Jour.* July 25, 1849.)

[The following interesting case was read at one of the branch meetings of the Provincial Medical and Surgical Association, and excited much attention on account of the formidable nature of the foreign body.]

Henry Taylor, a stout florid young man, groom to the Rev. Mr. Herring, of Fordham, was admitted into the Essex and Colchester Hospital, at half-past five in the afternoon of the 1st of March, 1845. His appearance indicated considerable constitutional disturbance, his countenance being anxious and suffused. He was suffering from great dyspnœa, and frequent short cough, which produced pain about the upper part of the sternum. His breathing was hurried and difficult, but his pulse not very excited, being only 84 per minute.

He states that whilst playing at a game called "puff-dart," one hour



previously, in making a deep inspiration preparatory to blowing the dart through the usual tube, he inspired the projectile, which was formed of a nail, wrapped round at one end with worsted, and of which the accompanying cut is an accurate representation.

On examination by the stethoscope, the only specific sign distinguished was a loss of the respiratory murmur on the left side. He was ordered:

Hydrarg. chlor., gr. v;
Pulv. jalapæ, gr. x.

Fiat pulv. hac nocte sumend; Haust. sennæ cras mane. Low diet.

2d.—He passed but an indifferent night, sleeping soundly, however, at intervals. There was but little alteration in his breathing; his pulse was rising, and his tongue coated; the bowels had been freely opened. On percussing the chest, it was found that the right side was resonant, and as it should be, whilst there was very decided dulness in the upper part of the left side, more particularly in front, and no respiratory murmur was to be heard in any part of this side of the chest:

℞ Liq. ant. pot. tart., ♏ xx;
Mist. salinæ, ℥j.
M. fiat haust. tertiâ quâque horâ rep.

3d.—Slept but little during the night, and the expression of his countenance still anxious; his skin hot, harsh, and dry; pulse 112, and no improvement in the chest symptoms. His bowels had not been relieved, but the first dose of the antimony had produced vomiting, which relieved him for awhile. He had expectorated some glairy mucus, and slight crepitation was heard at the inner part of the subclavicular region of the left side:

Venesectio ad ℥xij.
Adde liq. ant. tart. ♏ x, sing. haust.

4th.—Slept better; spoke of himself as being more comfortable, and the expression of his countenance was less anxious. His bowels were opened twice; pulse 112; had coughed up about an ounce of mucus. The dulness on percussion was more circumscribed, and the crepitation more distinct and general.

5th.—Was much the same, but the expectorated mucus was frothy; countenance less indicative of suffering.

6th.—His expectoration was slightly tinged with blood; he was restless, and his pulse 96:

℞ Tinct. opii, ℥ss;
Haust. salinæ, ℥j.
M. fiat haust. hac nocte sumend.

7th.—This morning he was altogether better, his pulse had dropped

to 84; he had passed a good night, and his cough troubled him but little.

He gradually improved after this time, until the 17th of April, when he was made an out-patient.

I lost sight of him from this date, until the evening of May 2d, when I was sent for by his friends in the greatest haste, the messenger expressing his belief that my patient would be dead before I could reach Fordham. I found him in a state of extreme collapse, covered with a profuse and cold perspiration; his breathing was scarcely perceptible, and he was pulseless at the wrist. On inquiring into the cause of this state, I found that he had been suddenly seized with a violent fit of coughing, and had brought up a large quantity (nearly a quart) of pus, which had been thrown away on to a dungheap. On search being made, however, the cause of all his trouble was found, covered with pus and extraneous matter. I have kept it to this day, and am happy in having an opportunity of showing it to you.

He rallied after a little time, stimuli having been given freely, and heat applied externally, when I was enabled to examine the state of his chest. I found puerile breathing on the right side, and pectoriloquy with gurgling over a considerable extent, midway between the clavicle and the nipple, on the left side; in fact, every evidence of a large cavity, communicating with a bronchus, and containing more or less fluid. His pulse was at 140, and he shortly began to suffer from restlessness and cough.

I ordered him to be well watched, to be kept very quiet, to have nothing but warm milk to drink, and gave him an anodyne.

I visited him on the following day. He was still restless, but his state was slightly improved. Pulse 130. He had expectorated about a pint of matter between my visits. Continue same diet:

℞ Liq. morph. acet., ♏ iv;
Tinct. hyoscy., ♏ xij;
Vin. ipecac., ♏ vj;
Mist. camph., ℥j.
M. fiat haust. sextis horis sumendus.

The next day I found him better. Pulse 114. He had not so much constitutional disturbance, and his cough was less frequent. He gradually improved. His restlessness and hectic left him after a while, his expectoration by degrees diminished in quantity, his pulse fell to 90°, and after the exhibition of tonics and a better diet (which, through his good luck in having a liberal master, could be regulated according to circumstances), he left his bed, and slowly and cautiously returned to his accustomed employment, suffering much, however, occasionally from shortness of breath, and pain in the left side of the chest; but these symptoms entirely disappeared after a time, and when I saw him, with my friend Dr. Duncan, we both agreed, after carefully examining him, that he was in robust health,—that his respirations were quiet, slow, and equal,—that his pulse was quiet and regular,—and that he had no cough: that, in one spot, midway between the left clavicle and nipple, and towards the sternum, there was more blowing breath-sound, and more vocal resonance than natural. There was no dif-

ference in the relative expansion of the sides of the chest, and the left side was neither contracted nor drawn in on respiration; in fact there was evidence of a small bronchial dilatation, but of no further abnormal condition, and he is now able to do the work of an able-bodied labourer.

Art. 16.—*On Latent and Circumscribed Pleurisy with Effusion.* By C. M. Durrant, M.D.

(*Prov. Med. and Surg. Journ.* Sept. 5, 1849.)

[The author states that this affection is often overlooked, from the obscurity and little urgency of the symptoms. He has seen it most frequently among the poor, and has ascertained that males are more liable to it than females, and young subjects more so than adults. With these introductory observations, he passes on to a detail of its characters, especially in reference to diagnosis and treatment.]

The common history among hospital patients is this:—The mother states that her child has been ailing for some weeks, or possibly months; that he emaciates, and loses strength; that he has no cough, or if any, that it is very slight and dry, and in general there is absence of pain; indeed the mother expresses herself unable to reconcile the more prominent symptoms with the small amount of existing local disturbance.

On more minute examination, we find the countenance unhealthy and pallid, but we are probably told that it becomes flushed towards evening. The eyes are unnaturally bright and prominent, provided there be no coexisting pneumonia, when they are characteristically heavy and dull; there is often slight emaciation. The digestive organs in general perform their functions healthily, and the appetite is tolerably good. The pulse is almost invariably quickened. On further inquiry we find that the attack is often traced to a cold; that in the onset there may have been a slight pain in the side, but as frequently none. The cough, if any exist, has been dry and hacking, but by no means severe, and on closely questioning the patient himself we may often elicit the fact that there has been uneasiness, not amounting to pain, felt in one or other recumbent posture, and that the breathing has been for some time past slightly accelerated by any attempt at active exertion, which latter symptom is invariably attributed by the patient to weakness. Such, with the physical signs which we shall presently consider, under the head of diagnosis, are the leading features which present themselves to our notice in this often obscure form of disease.

Its characters generally are asthenic, and it is often found as a sequela to, or complicating diseases of, an adynamic type, as the convalescence from typhus, and the exanthemata, more particularly scarlet fever, granular degeneration of the kidneys, and other maladies, giving rise to a cachectic condition of the system.

The importance of a correct *diagnosis* cannot be too strongly urged, as upon it alone must be based the appropriate treatment of the case; and although in its primary and uncomplicated form I believe that it does not, so frequently as is supposed by some authors, act as a direct excitant to tuberculous disease, it nevertheless, by its latency, engenders sooner or later, that cachectic state of habit which, in the here-

ditarily predisposed, becomes so readily a nidus for the deposit of tubercle. In addition to the symptoms above enumerated, we are at once led, from the insufficiency of these alone, to institute a careful physical examination.

It will be desirable, if possible, to have the chest of the patient perfectly uncovered, as the results of inspection and palpitation become valuable adjuvants to diagnosis. If any considerable amount of fluid obtain, we shall find that the motions of the ribs upon the affected side are diminished, and that in extreme cases this portion of the chest compared with the opposite is rendered immobile. The intercostal spaces in latent pleurisy are not usually affected. If the fluid be circumscribed, these phenomena are of course limited in extent, and sometimes confined solely to the mammary region.

On applying the hand to the chest, the natural vibration produced by the voice or cough is either diminished or abolished. This sign is of less value in circumscribed pleurisy, if it obtain in the upper or middle portions of the chest. I have never detected the existence of rubbing vibration in this asthenic variety of the disease.

Percussion yields a diminution of clearness and resonance over some part of the chest, in general influenced by the position of the patient, even if the amount of fluid be small, and of course limited to the lower portion of the chest, unless the effusion be circumscribed, when the differential diagnosis between it and circumscribed asthenic pneumonia, chronic phthisis, or malignant disease within the chest, in an inactive stage, requires very careful discrimination. The auscultatory signs of latent pleurisy are diminished and feeble respiratory murmur, although occasionally, and more particularly when circumscribed, it assumes a diffused blowing character, but this is rare. Perfect œgophony is seldom audible, but a modified bronchophony will be found pretty generally to obtain. It is not in itself a sign of much value in the diagnosis. The friction-sound is equally inconstant, and when audible it is generally in its reduced form, when a portion of the fluid has been removed by treatment.

If, then, in a patient of cachectic habit, who has been for some time ill, whose countenance presents the features of internal disease, having the symptoms above detailed more or less delineated, even should cough and dyspnœa be wanting, we ought at once to make a careful exploration of the chest, when very frequently will be found those physical signs which will at once give confidence to treatment, and clear up the diagnosis of an otherwise doubtful case.

The prognosis of this variety of pleurisy, inasmuch as it affects the life of the patient, is favorable, but as it is latent in its origin and advance, so it is often essentially tedious and chronic in its progress towards recovery.

Under these circumstances it is a wise proceeding to caution the friends of the patient, that they may not be disappointed at the sometimes apparently little progress that is made towards a cure; yet, notwithstanding these precautionary observations, I may remark, that judicious treatment often exerts a very decided influence upon the disease, exciting the absorbents, and removing every vestige of deposit.

In the treatment of latent pleurisy, general venesection will, I believe, in no case be requisite. Topical bleeding, by cupping or leeches, may occasionally be found necessary, more particularly if pain, heat of skin, or other indications of increased action obtain; but even these latter measures, in the majority of cases, will be uncalled for.

In mentioning counter-irritation, I would eschew all forms of it, with the exception of blisters, and a strong solution of iodine; and these, particularly the former, are often invaluable. I have so frequently witnessed the application of croton oil and tartar emetic in this affection unattended by any result, save annoyance to the patient, that I feel no hesitation in dissuading from their adoption.

In applying blisters, these should be large, as they exert a more decided influence, without producing an increased amount of irritation. On their removal it is better to allow the vesicated surface to heal, than to promote a discharge by savine or other ointments. A succession of blisters, which are frequently needed, may thus be applied, and by which method I am satisfied that the absorbents are more decidedly affected than by preventing the healing of the original blistered surface by irritating applications.

It has been recommended to paint the affected spot with strong tincture of iodine; and provided that free and repeated blistering have been previously had recourse to, and failed in exciting the absorbents, the application of this solution, repeated according to circumstances, will sometimes be found of use. In addition to counter-irritation, I need scarcely allude to the value of mercury, so administered as gradually and gently to affect the system. We must, however, never lose sight of the fact, that in cachexia the effect of this mineral, even in its mildest forms, is sometimes unexpectedly severe and unmanageable. If the symptoms are not distressing, perhaps the best preparation will be found to be the biniodide, in doses of one grain every night, or night and morning, according to the amount of disease and urgency of the case.

Strict attention to the functions of the digestive organs, prior to the administration of the iodide of potassium, will be found to be necessary; or if these be healthy, as evidenced by a clean and not morbidly-red tongue, the exhibition of this medicine from the commencement of the treatment will be desirable. The only other remedy that I shall notice is the comparatively recently introduced cod-liver oil. In some cases, more particularly, if there be emaciation and debility, its prolonged use (which will not interfere with the exhibition of other remedies,) will be attended with marked benefit, and prove a valuable auxiliary to general constitutional treatment. Such is a very brief outline of this often obscure but important disease; important, both from the amount of mischief that may exist, independently of any marked symptoms indicating its presence; and important also, both in reference to the well-being of the patient, and the professional credit of his medical adviser

Art. 17.—*Extracts from Clinical Lectures on the Physical Signs of Phthisis.* By Richard Payne Cotton, m.d.

(*Medical Gazette*, Aug. and Sept. 1849.)

The morbid conditions in Phthisis, discoverable by physical examination, are divided into first, second, and third stages; the first corresponding to the crude tubercle, the second to its period of softening, and the third to its elimination, with the formation of cavities.

1. On the first appearance of tubercles in the lungs, in the majority of cases, there is no visible deviation from the healthy form of the chest, and mensuration with callipers will fail in detecting any dissimilarity in the two sides. In a few instances bulging to a variable extent may be discovered in one infra-clavicular region; but its rarity will be manifest when I mention that I have met with it but three times in examining about 400 phthisical patients.

As the first stage advances, the lung in the vicinity of tubercle usually contracts, either from atrophy of its cells, chronic inflammatory induration of its structure, or contraction of false membrane from secondary pleurisy; and, as a consequence, there is more or less depression in the neighbourhood of the clavicle, sometimes evident to the eye, but readily ascertained by using the callipers. As might be supposed, there is great variety in this respect, many cases not offering the least difference in the two sides until softening has begun, whilst others display a visible falling inwards very early in the disease. Any depression either in the supra- or infra-clavicular region of one side should be regarded as suspicious: in my notes of 100 cases in the first stage, I find it recorded fifteen times, in all of which, however, the disease was considerably advanced, and at no great distance from the second stage.

No information can be gained at the earlier periods by watching the movements of the chest, as the two sides, from long habit, are pretty equally expanded, although one lung may have rather less power of distension than the other: it is not until a later stage that any important difference in this respect can be ascertained: moreover, a slight dissimilarity might be natural, or result from lateral curvature; but whenever the case is sufficiently advanced to exhibit any depression, there is less mobility in that region.

Unless the tubercular deposit be considerable, or the neighbouring part of the lung much condensed, application of the hand will not detect any morbid amount of vocal fremitus in the infra-clavicular region; and as an excess on the right side is natural, its employment is nearly limited to the examination of the left, where, if the vibration be greater than on the other, phthisis may be fairly suspected.

At a very early period careful percussion will generally detect a slight difference in the resonance of the diseased part, growing more and more evident as the case advances, until the sound produced becomes perfectly dull; at the same time the healthy elasticity of the thoracic walls is diminished, and a sense of resistance, passing into perfect hardness, given to the finger employed as the plexímeter.

In doubtful cases it is useful to percuss whilst the patient is holding the breath after a deep inspiration, during which, the affected lung being less distended than the other, may exhibit more or less comparative dullness. Diminished resonance is one of the earliest and most characteristic signs of phthisis, and I have met with but two cases in which it was calculated to mislead.

[By far the most valuable evidence of phthisis is afforded by auscultation, which, to the practised ear, will rarely fail to reveal it at a very early period. This evidence is thus commented upon:]

The changes in respiration caused by tubercle are various, and depend upon its extent and position, as well as on the physical state of the surrounding lung; but they may be all included under the following heads: viz. weak, jerking, harsh, bronchial, expiration prolonged; which will be spoken of separately.

Simple weakness, without any other alteration, is very often met with, and may be found over the whole apex, or only in spots; in the latter case, the intensity of breathing in the immediate neighbourhood is generally increased to compensate for the deficiency; and, in the former, the other lung frequently presents the respiration termed compensative or supplementary,—which is merely a highly-developed natural type, to make up for loss of energy on the other side. In some cases the weakness passes almost into the absence of respiratory murmur; but I have never yet met with a case of its total suppression, —that is to say, in which a sound more or less loud could not be heard during forced breathing. Where feebleness of respiration depends upon tubercle, it is singular to observe how progressively the sound increases in descending, until, towards the middle of the lung, it becomes similar to the other side. Weakness may be a healthy peculiarity, but as such, it is found precisely alike in all parts of the chest; therefore, unless this character is determined comparatively, no dependence can be placed upon it.

In jerking respiration, the inspiration, but little changed in intensity, instead of being uniformly developed, occurs in irregular puffs; whilst the expiration is scarcely affected. This is a very distinctive and common sign, and early in its appearance, often remaining for weeks or months, and generally followed by the harsh variety,—or, if the disease does not advance, gradually subsiding, or passing into the weak type.

It is not difficult to understand the cause of weak and jerking respiration: an impediment exists to the free expansion of the lung, which in the former is partially and gradually overcome, but in the latter only by intermitting efforts.

Harsh respiration is known by being louder than that of health, and conveying to the ear a distinct idea of air passing over a rough surface: it is either limited in position, or diffused over the whole infra-clavicular region—the latter generally happening with the progress of tuberculization, and is at length superseded by the bronchial form.

Alteration in the relative length of the two respiratory murmurs is generally owing to an increase in the expiration; but sometimes the inspiration is shortened, which gives to the other an appearance of prolongation. Whether the expiration be lengthened actually or

relatively, it is equally a sign of disease; but a decrease is of no importance, since it may vary in duration from the usual standard, until it is quite inaudible. Prolongation of the expiratory murmur may exist separately, or be associated with the weak and harsh varieties; it is rarely much increased in length without being changed in intensity or quality; sometimes it is louder than in health, at others harsh, or bronchial. If one or more of such changes be limited to the ordinary seat of tubercle, they become valuable evidence of phthisis, and with the concurrence of other general and physical signs, leave no doubt as to the disease.

The cause of prolonged expiration may be explained, either by the mechanical obstacle to the exit of air afforded by the tubercular matter, or the diminished contractility of the pulmonary tissue; it is probable that both may act in combination: the inspiration may be at the same time shortened, by the decreased capacity and imperfect expansion of the lung.

Bronchial respiration commences either from an almost imperceptible transition of the harsh variety, or a gradual extension of the bronchial quality of expiration into both murmurs; even in the former case the first change is often observed in the expiratory sound, and it may be a long period before the other becomes affected; but this is not an invariable rule, for occasionally the inspiration alone is bronchial, and remains so throughout.

The respiration is naturally bronchial in some parts of the chest, but elsewhere it can only become so from the conduction of sound from more or less deeply seated bronchi, by solidity of the lung. M. Fournet, a great authority in auscultation, has taken pains in explaining the distinction between the healthy and morbid kinds, but from the varying character of both, I have failed to discover the practical utility of his conclusions; when, however, the latter has been long established, it is easily recognised by its greater harshness, dryness, loudness, and tubular character. On this subject the following rules may be found useful:—

Bronchial respiration, however slight, where it does not occur naturally, is a sign of disease; if in, or near, those parts where it may do so, its value consists in the presence or otherwise of a corresponding condition on the opposite side, since the natural kind is never found on one side only, and the morbid rarely on both, or if so, not in the same degree. Whenever the respiration is bronchial over the ordinary seat of tubercle, it may be taken as presumptive evidence of phthisis; but it is far from being a constant attendant upon the first stage, as a considerable amount of pulmonary condensation is necessary to its production: when fully established it is generally permanent, until superseded by symptoms of breaking up of the lung; although, by proper treatment, its progress may be often stayed, and the amount considerably lessened.

[The lecturer proceeds to show that these signs may occur in other lesions than phthisis, and to point out their differential diagnosis.]

It is important to recollect that these changes in the respiration are not, *per se*, a proof of phthisis, since they indicate merely disordered function of the lung, and are common to any alteration in its physical

state, impeding the free entrance and exit of air. The lung may be thus influenced either by tubercles alone, from their number,—inflammatory consolidation, from their irritation,—idiopathic inflammation,—or mechanical obstacles in the air-passages.

Two circumstances will generally determine their dependence or not upon tubercular disease—viz. (1) position; (2) coexistence of other signs.

1. *Position.*—It is well known that tubercles, as a general rule, are first deposited in the superior lobes; in very rapid and acute cases they may be distributed equally throughout the lung, but in chronic cases the bases are seldom implicated, and then not until the disease is in an advanced stage: in 500 out-patients I have met with but four cases where the lower parts seemed chiefly affected, and only one instance of a tubercular cavity in the inferior lobe. They appear at first equally disposed either to occupy but one side, or to occur in one to a much greater amount than in the other: in 100 cases in the first stage, they were found, on the right side only, 27 times; on the left only, 51 times; and on both sides, 22 times.

Situation of Tubercle in 100 *Cases of Early Phthisis.*

Right Apex.	Left Apex.	Both Apices.	
		Equally.	Unequally.
27	51	8	14

If, therefore, the morbid respiration show a corresponding limitation, it is a valuable sign of phthisis; if, on the other hand, it occur in other situations, it is probably produced by other diseases, of which the following is a brief sketch:—

The respiration is weak over the greater part of the chest whenever an obstacle exists to the free entrance of air into the pulmonary cells: it is harsh when the surface of the latter has lost its smoothness: hence, the first is met with in bronchitis and emphysema—in many nervous affections—whenever the calibre of the bronchi is changed by spasm, as in asthma, or the pressure of tumours; whilst the latter accompanies bronchitis, and emphysema (from attendant bronchitis).

Expiration may be prolonged in any region by a mechanical impediment to the exit of air, and by diminished elasticity of the lung itself; hence it is common in bronchitis from accumulated mucus, and in emphysema from permanent dilatation of the air-cells.

Jerking respiration may attend incipient pleurisy, and pleurodynia, when it is limited to the seat of disease, and is often heard in hysterical females over the entire chest.

Bronchial respiration may occur over any part of the lung, in dilatation of the bronchi, pleuritic effusion, and pulmonary consolidation.

[The onward progress of phthisis is indicated by the appearance of

certain rales and sounds, which depend either on morbid secretion or physical change in the lung. The lecturer enumerates them in the following order, and after describing their various differences, which must be sufficiently known to our readers, he points out their pathological significance. The sounds in question are—

Dry.
- Sibilant rhonchus.
- Sonorous.
- Dry crackling.
- Crepitant.

Humid.
- Sub-crepitant.
- Mucous.
- Moist crackling.
- Cavernulous.
- Cavernous.

Friction murmur.
Crumpling sound.

He then proceeds:]

I shall now describe in succession the relation of the preceding sounds to the first stage of phthisis: and first, of those which act *indirectly*.

Phthisical patients are very liable to general bronchitis, known by sibilant and sonorous rhonchi in most parts of the chest, whereby the respiration is masked, and the tubercular affection liable to be overlooked, especially as percussion here loses something of its value, because it is just possible that slight dullness may depend upon accumulated mucus; such cases should be examined as the inflammation declines, when some rhonchi will be found lingering about the upper part of the lungs; exactly the contrary to what happens in idiopathic bronchitis.

Subcrepitant rhonchus, indicative of inflammation in the smaller bronchi (capillary bronchitis), is a valuable sign of tubercles, and, although more common after softening has commenced, may occur during any stage of the disease, particularly amongst the poor, and those most exposed to changes of temperature. Capillary bronchitis may be idiopathic, as well as secondary to tubercle; but the former invariably attacks both sides pretty equally, and begins at the base of the lungs, whilst the latter is strictly local, or occupies only the diseased side. Hence comes the following practical rule,—subcrepitant rhonchi, either at the apex or base of one lung only, declare the presence of tubercles in that side; but when at both bases, or throughout both lungs, they point rather to an idiopathic inflammation: in the latter case, however, the conclusion is less certain than in the other, inasmuch as if tubercles exist to a tolerably equal extent at both apices, a similar result might happen. When capillary bronchitis attacks the base of a tuberculous lung, in most cases the upper lobe is likewise affected, and the inflammation may be heard extending from each point, until, by meeting towards the centre, the whole lung becomes filled with subcrepitant râles.

I have never heard a mucous rhonchus in the situation of tubercles before softening has commenced; unless it be the variety called "sub-

mucous," occurring in the smaller tubes, and hardly distinguishable from the subcrepitant, which may sometimes be met with after hæmoptysis has taken place, not only in the seat of the disease, but in distant parts of the lung, when it is probably due to the presence of blood.

Crepitant rhonchus (fine crepitation)—the characteristic of pneumonia—is of rare occurrence with tubercular disease; simply because the local inflammation caused by tubercle is much more frequently of the smaller bronchi than the parenchyma of the lung.

Friction-murmurs are more commonly met with during the first stage than crepitant rhonchus; that is to say, local pleurisy is less rare than pneumonia. Whenever an unequivocal friction-murmur is limited to the apex of the lung, it becomes a valuable sign, and justifies the suspicion of pleurisy resulting from tubercular irritation.

We now come to the varieties of crackling rhonchi—viz. dry and humid, which, unlike any of the preceding, are *direct* indications of phthisis, and never occur in any other disease. Fortunately, there are none better named, more readily recognised, or more easily remembered; and although their mechanism is unexplained, they have been so universally found to coexist with tubercles as to leave no doubt of their relation as cause and effect. The dry rhonchus belongs to the first stage, and the humid to the second; therefore, at present, I shall only dwell upon the former. This râle is never heard at the very commencement of the disease, but it is probable that there are few or no cases which do not present it for a shorter or longer time towards the latter part of the first stage. Its general origin may be thus stated:—After many weeks, or even months, of the earlier signs—such as diminished resonance, jerking, harsh or weak respiration—one or two dry clicks are heard during inspiration, and about the same time the breathing becomes more impaired, either less complete, or bronchial, with prolonged expiration. One single click is enough for diagnosis, and upon such evidence alone I have often founded it; but two, three, or more are usually heard. At first they are only with inspiration, but as the case advances they may attend both murmurs, and in proportion to their abundance with the expiratory is the increase of the disease declared. I always regard dry crackling as an unfavorable sign, as it seems to indicate either the passage of tubercles from their state of latency, or a sudden increase in their number; for, when once established, it invariably remains, until superseded by the humid variety, or other moist rhonchi, and may be heard at every subsequent examination, if not in tranquil, at least in forced respiration. Its duration is variable: in some cases it is rapidly transformed, and in others remains many weeks; but I cannot remember having heard it in the same spot longer than three months.

Pulmonary crumpling—said by its discoverer to occur in one eighth of all cases of phthisis—has had its very existence denied by subsequent writers. Having had unusual opportunities of examining early cases, I have particularly attended to this subject, and can, without hesitation, declare, that whilst I am somewhat sceptical as to his first two varieties, I have no doubt of the third, although I believe he has overstated its frequency.

Of this third variety, resembling the sound of crumpling tissue

paper, I have met with several instances. According to my experience, it occurs only at the apices of the lungs, distinctly conveying the idea of their expansion under difficulty; is most audible posteriorly in the supra-spinous regions; is limited to inspiration, and sometimes heard only during forced breathing; appears to accompany only the early stage, usually before other symptoms are much developed; remains but a short period (hence, perhaps, the infrequency of its detection); and is invariably succeeded either by harsh respiration, or dry crackling rhonchus. From its rarity and short duration, it ranks not amongst the most important signs of phthisis; but, when distinctly ascertained, it may be regarded as pretty conclusive evidence of the disease.

[Vocal resonance is next considered, and bronchophony thus described:]

Bronchophony is found naturally in some parts of the chest, assuming many varieties both in position and degree. When it is the result of disease, one of two pathological conditions is declared; either a portion of the lung is consolidated, and the sound of the voice thereby better conducted to the surface, or a bronchial tube is considerably dilated. Although the latter is a comparatively rare affection, it is possible to lead to erroneous diagnosis, since percussion in both cases furnishes the same result—viz. more or less dullness; but the history of the case, and the state of the patient, would in most instances declare the real nature of the disease.

Morbid bronchophony varies in intensity, and is sometimes so loud as to be positively painful to the ear, but in other respects it is not distinguishable from the natural type, and oftentimes can be called morbid only from its position. It is in the neighbourhood of the clavicles, and in the supra-spinous regions, that its importance lies in connexion with phthisis: if found equally loud on the two sides, the left is probably morbid; if there be any excess on the left, it is undoubtedly so; but a greater amount on the right is unimportant, unless it be very considerable, when tubercular disease may be suspected. Bronchophony seldom appears until the first stage is somewhat advanced, and, in the great majority of instances, is accompanied with bronchial respiration: but this is not necessarily the case; for often it is distinctly marked when there is merely a slight dullness and resistance on percussion, and the respiration is weak or jerking.

[Other signs of consolidated lungs are these:]

The extent of the heart's sounds is another sign, and of some importance, as it may be used when others are ill-developed, and at an early period of the disease. When the lung is consolidated, the sounds may be conveyed to any distant spot, and thus their occurrence in either infra-clavicular region, when inaudible in other parts equally distant from their seat of origin, is, under certain rules, presumptive evidence of phthisis. If heard at all on the right side, unless the heart be beating very strongly, suspicion should be excited, even if the other side be in the same condition. When there is any excess beneath the right clavicle, it is a pretty sure indication of tubercle, but a similar discovery under the left is of little importance, for, if unattended by other signs, it would probably be natural; whence it follows, that this

sign is chiefly available in examining the right lung, being exactly contrary in this respect to vocal fremitus.

A murmur of the subclavian artery, generally of the soft, and blowing kind, but sometimes rough or rasping, is enumerated amongst the signs of the first stage of phthisis, but is not of sufficient importance to merit much confidence.

[The above signs are briefly recapitulated in the following imaginary case:]

A person presents himself with some one or more of the general symptoms of consumption, but too obscure and equivocal to determine the real nature of his malady. Upon examining his chest, it is possible that one side may be found slightly bulged beneath the clavicle; but more probable, either that there is no visible difference in the two sides, or that one is somewhat more depressed than the other,—in other words, that one clavicle appears to stand out more than its fellow. Either of these excites suspicion, but is not sufficiently important to justify any conclusion, and we proceed further. We watch the ordinary movements of the chest, and direct the patient to take a full inspiration, when, perhaps, the upper regions of the two sides are not equally expanded, and if the diminution correspond with the preceding sign, there is reason to suspect phthisis; but as it will generally happen that no very evident difference is discoverable, we proceed onwards in the examination. Upon the suspected part we place the hand lightly, whilst the patient speaks, when there may be an increase of vocal fremitus; or we ascertain whether the heart's sounds are unduly conducted to that point, recollecting that the former is chiefly applicable to the left side, and the latter to the right;—or we listen for a murmur in the subclavian artery, taking care not to place too much reliance upon its discovery. We then percuss, and find more or less dulness and resistance above, upon, or beneath the clavicle, or in the supraspinous region. It may be that we have now the first indication of the disease, most of the preceding signs having been deficient; but should ordinary percussion be somewhat doubtful in its results, we order the patient to take a deep breath, and percuss whilst he is holding it, when a difference is perhaps more readily detected.

The stethoscope now comes to our assistance to determine the value of the previous evidence; the respiration is found weak or jerking; the expiration is prolonged beyond its healthy limits; or perhaps the case is sufficiently advanced to render it harsh, or even bronchial. It is possible that we now discover the pulmonary crumpling sound, but its absence is unimportant; and very likely there are a few dry crackling rhonchi. If it should happen that our patient is suffering from bronchitis of the larger tubes, we must not be too hasty in arriving at a conclusion; but if the smaller bronchi only are implicated, we shall find subcrepitant rhonchi either all over the suspected side, or chiefly seated in the upper lobe. A friction-murmur may perhaps be heard at the apex; and it is just possible, even the fine crepitation of pneumonia. If further proof be desirable, from the absence of some of the preceding, we direct the patient to speak or cough whilst the stethoscope is applied, when bronchophony or bronchial cough may be

present.—And thus have we arrived at the positive conclusion that our patient is in the first stage of tubercular disease.

[The signs of the second stage are next discussed.]

2. Of the great majority of signs attending the second stage, little more will be requisite than a brief enumeration, since they consist merely of a greater and more unequivocal development of those already explained as belonging to an earlier period,—the result of an increased amount of tubercular deposit, which for the most part immediately precedes and accompanies the softening process. In the present lecture, therefore, I need only dwell upon those signs peculiar to the changed condition of the tubercular matter, and this will occupy but a short time, as they are fortunately equally simple as important.

A patient in the second stage will generally have the infra-clavicular region of one side visibly flattened, and less capable of expansion during ordinary and forced breathing, than the other. If the hand be applied to that part, both vocal and tussive fremitus will be found increased; and, on percussion, it will exhibit more distinctly than formerly, both dullness and resistance. The respiration will probably possess some of the morbid characters already described; most frequently it is harsh or bronchial. The sounds of the heart are now often heard unnaturally on the diseased side; bronchophony and bronchial cough are much more developed; and the pulmonary crumpling, if it has existed, ceases to be heard. Such a catalogue of symptoms is given merely as an illustration of what may be expected, to a greater or less degree, in the majority of cases. Great variety will be observed in their association, and none of them can be regarded as any proof of the tubercles having softened. I sometimes meet with patients unquestionably in the second stage, exhibiting them so slightly, that were it not for other indications, they might hardly be suspected of being tubercular, or, at most, only in the commencement of the disease; whilst, on the other hand, it is as common to encounter others in whom these deviations from health are sufficiently evident to lead to the suspicion of a much more advanced period. There is at this time a greater probability than formerly of the occurrence of the disease on both sides, but this will rarely take place to an equal extent; if one side be previously unaffected, it will often now begin to exhibit symptoms of becoming tubercular.

It should always be recollected that there is no distinct line of separation between any of the stages of phthisis, the first gliding insensibly into the second, and the second into the last; that the difference between them is only one of degree, in all respects except the altered state of the tubercles; and that all signs not directly depending upon the latter may consequently be met with at any period of its duration.

Fortunately there is nothing in the whole practice of auscultation more easy than to detect the very beginning of the softening process; the dry crackling rhonchus has simply to become humid, and the evidence is complete; a number of bubbling subcrepitant, or large mucous râles, have but to occupy the diseased part, and the transformation becomes more than probable.

A knowledge of the humid crackling rhonchus is therefore of the

greatest importance; but is easily acquired, as it resembles the dry one, in all respects than its moistness, having the same characteristic click. They are found to pass gradually into each other, and every intervening state, from the perfect dryness of the one to the well-marked humidity of the other, is constantly heard; so that it is sometimes difficult to determine to which the sound should be referred. It is impossible, however, to doubt its tubercular origin; and any deviation from positive dryness justifies the conclusion that transformation has begun.

On the first appearance of the liquid rhonchi, they seldom exceed the others in frequency; but with the advance of the case they become much more numerous, and, at the same time, more frequent with expiration, more distinctly liquid and bubbling, until at length they acquire a somewhat metallic quality, and pass into others distinctive of the last stage; these changes being as gradual as in the former case.

When softening begins, and during the whole of the second stage, patients are more than ever liable to inflammation in the neighbouring parts of the lung. It is not often that the parenchyma itself is attacked, hence the fine crepitation of pneumonia is seldom heard; but perhaps at this period it may be expected more frequently than formerly. The pleura is occasionally the seat of secondary inflammation, and friction-sounds are sometimes met with. The larger bronchi are somewhat more predisposed than formerly to inflammatory attacks; sonorous and sibilant rhonchi are consequently not uncommon attendants; but they merely announce the presence of bronchitis, and are usually heard over the whole chest. The smaller bronchi are very often implicated; and subcrepitant rhonchus is a very frequent accompaniment to the second stage.

Mucous rhonchus (of the larger kind, and not that in the minute tubes, which, as already stated, is scarcely separable from the subcrepitant) is not an unfrequent attendant upon the second stage, and is distinguished from the other two by its greater size, inferior frequency, and the idea of adhesiveness it communicates to the ear; it may occur either separately or in union with the others. When alone it would not justify the positive decision that tubercles were breaking up, as it might depend either upon an attack of bronchitis, or (if hæmoptysis had happened) the presence of blood in some of the larger bronchial tubes; but whenever it is strictly limited to the ordinary seat of tubercle, and all other symptoms indicate an advanced period of phthisis, it may be taken as presumptive evidence that softening has commenced.

Humid crackling—the large and moist subcrepitant—and the larger kind of mucous rhonchi, therefore, are signs announcing the second stage, but they differ in their value. The first is positive and unequivocal, never occurring under any other circumstance; the second and third are of less importance, since they require, like other indirect signs, considerations similar to those spoken of in a previous lecture, viz. their position and the coexistence of other signs, to determine their signification. Either of them may occur alone, or be so intermixed with each other, as to make their distinction impossible. With regard to their comparative frequency, the humid crackling by itself is the

most common; next to this is its combination with the subcrepitant; but the latter is often found alone, or in conjunction with the mucous; great variety in this respect constantly takes place.

There is a variety of mucous rhonchus with a clear metallic note, very liquid and bubbling, which, although difficult to describe, is so peculiar, as to render its recognition, after having once been heard, a very easy matter. I have reason to believe that the humid crackling rhonchus generally passes into it, and that the others sometimes do the same: it pronounces with great certainty that the second stage is much advanced, and not far distant from the third. When once established, I have invariably found it permanent, until, by gradually increasing, it has become lost in rhonchi characterising the last stage, or if the secretion has diminished, it has been succeeded by cavernous respiration. I have long regarded this sound as the sure forerunner of tuberculous excavations, and have too often been able to verify the accuracy of the conclusion.

The part where softening first shows itself, will generally be found to be that in which there were the earliest signs of crude tubercle; and, if the lung be now examined, those parts where there was formerly no appreciable deviation from the healthy conditions, will exhibit more or less evidence of incipient tuberculosis. It appears that there is at this time a tendency to the rapid deposition of tubercle,—the effect of some further reduction in the resisting powers of the patient, under which those tubercles which are the oldest undergo transformation.

It often happens that we can observe upon the same patient the blending of the two stages, and at the same time the distinctive marks of each. There is perhaps a mucous rhonchus of the clear metallic variety at the very apex; surrounding and beneath it, a humid crackling, sub-crepitant, or mucous one; and still lower down, a few dry clicks. The percussion-sound will probably show a corresponding gradation,—the dullness, which was greatest at the summit, decreasing gradually in descending, until it becomes lost in the clear sound over the yet unaffected basis. The respiration is perhaps equally changed, being bronchial where the sound was the dullest; harsh, weak, or jerking, lower down; until in the inferior parts it is found healthy; or if altered, either weaker than on the opposite side, or slightly exaggerated, according to the state of the other lung.

[Having now included all that is important in this division of the subject, the lecturer completes the physical examination of phthisis, with a general description of the signs peculiar to the last stage.]

3. The third stage of phthisis, or that in which cavities exist in the lungs, is in general very easily recognised by physical examination.

For the sake of convenience I shall describe the stethoscopic signs of small and large cavities separately, wishing it however to be understood, that the main difference between them consists only in degree, and that every intervening state will be constantly discovered.

Where the cavities are small.—I have already said that the humid crackling, mucous, and sub-crepitant rhonchi pass into one nearly allied to the mucous, but essentially metallic in its quality; when this is fully established, the commencement of very minute cavities may be safely diagnosed. If a patient in this condition be examined from

time to time, the rhonchus will be found more and more characteristic, until, by increasing in size and humidity, it at length becomes decidedly cavernulous.

The true cavernulous rhonchus is a clear, bubbling, and metallic sound, taking place both with inspiration and expiration, but especially the former; varying in loudness and frequency, according to the amount of secretion; and giving to the ear the impression of being produced in a small and hollow space; it is easily recognised, and declares unequivocally the establishment of the final stage. The respiration at this time is usually more or less bronchial; sometimes merely harsh; but often distinguished with difficulty, from being masked by the rhonchi. I have observed that the heart's sounds, especially the second, now become more than ever distinct on the diseased side, which although not amongst the positive signs of excavations, may be sometimes recollected with advantage. Bronchophony is now more positive than formerly, and oftentimes so loud, as to be painful to the auscultator,—the result of increased conducting power of the lung, with emaciation of the thoracic walls.

Where the cavities are large.—When vomicæ are of some size, there arise a new set of signs, not yet mentioned, and with which it is highly necessary, but happily equally easy, to be familiar; they consist of still further modifications in the percussion-sound, the respiration, the rhonchi, and vocal resonance,—all of which I shall explain separately.

Every variety of sound, from absolute dullness to what is termed amphoric resonance, may attend percussion over a cavity, according to its size, position, and the state of the surrounding parts; the force employed also makes a considerable difference, since, if it be gentle, it will proceed from the superficial, and, if hard, from the deeper parts. Positive dullness of sound, with perfect inelasticity of the thoracic wall, is by far the most common. Not unfrequently, however, the sound is so little altered from that of health, owing probably to the morbid clearness of the cavity balancing the dullness of the neighbouring induration, that it is not very easy, without other evidence, even to ascertain which side is diseased. Amphoric resonance is heard only over large cavities seated close to the surface, or separated from it by indurated lung, and in the latter case requires rather strong percussion for its production; it is very characteristic, and exactly imitated by filliping the cheek when the mouth is inflated. When the percussion-sound is more or less amphoric, it frequently happens that by directing the patient to keep his mouth open whilst the chest is struck somewhat smartly, a new character is developed, so peculiar, as to decide at once the history of the case,—I allude to the cracked-pot sound, first described by Laennec under the name of "bruit de pot fêlé." It is impossible by description to do justice to its peculiarity; but this is well expressed by its own designation, as it exactly resembles the noise produced by striking an empty and cracked pipkin. It seems necessary to its development that the cavity should be large, tolerably dry, and communicating freely with the bronchi; and that the mouth should be widely open. In no case have I heard it clearly marked in the absence of the last condition. Such a combination, however, does not invariably produce the cracked-pot sound, for

reasons, perhaps, difficult of explanation; and if I were to hazard an opinion as to its frequency, I should say, that it may be met with in about one third of such cases. On the whole, percussion is a capricious guide to vomicæ;—more frequently affording no evidence of their presence; sometimes calculating to mislead even as to the nature of the disease; but occasionally announcing them in the most unequivocal manner.

By the respiration alone, cavities of tolerable size may generally be detected, from the air in passing through them giving rise to a sound which is properly termed cavernous, easily distinguished by its hollow and metallic character, and at once telling of its production in an empty space.

Cavernous respiration often has its origin in a gradual increase of the bronchial type—the one passing into the other—but it may succeed any other morbid variety, or begin in spots, where, during the second stage, scarcely any respiration could be heard. Intense bronchial respiration is very closely allied to cavernous, and from a confusion of the two by inexperienced auscultators, I have seen patients unnecessarily alarmed, and most undeserved discredit thrown upon the stethoscope. They may be distinguished by the bronchial giving rise to the idea of its originating in a dry tube, whilst the cavernous seems to be produced in a hollow space, and is distinctly metallic; but it must be confessed that cases now and then occur, in which the most experienced have some difficulty in deciding between them.

Where the cavity is of very great extent, and tolerably free from secretion, the respiration undergoes another change, and is said to be amphoric,—a quality easily recognised by its resemblance to the sound caused by blowing into an empty bottle.

Amphoric respiration is generally, but not invariably, attended by amphoric resonance on percussion, and, like the latter, requires for its development, that the cavity should be large, and situated near the surface. There is in reality no line of separation between cavernous and amphoric breathing; the one merges into the other.

The only condition at all likely to be mistaken for vomicæ, from the evidence of cavernous respiration, is extreme dilatation of the bronchial tubes—a very rare disease, more common in the centre than at the apex of the lung, and in its attendant symptoms so different from the last stage of phthisis, as scarcely to justify the one being ever mistaken for the other. Cavernous respiration is dry or humid, according to the absence or otherwise of secretion in the cavity, and in the latter case is associated with, and even frequently masked by, a very characteristic rhonchus termed cavernous, or, from another of its properties, gurgling.

Cavernous rhonchus has many varieties, according to the amount and consistence of the secretion, and the size of the cavity; sometimes it resembles the bursting of large bubbles, at others, the agitation of some thick and viscid substance in contact with air, but in all instances it conveys the idea of metallic hollowness, and can scarcely fail, even to the most inexperienced, to tell at once of the seat of its production. It varies in tone, and is sometimes heard by the patients themselves, who are thus enabled to point out the exact situation of the cavity;

and not unfrequently it is loud enough to be distinguished at some distance from the patient's chest. Persons with cavities will sometimes describe a sensation like the ticking of a clock, and if the stethoscope be applied, an indistinct impulse is communicated to the ear, apparently produced by the agitation of fluid by the heart's action.

Pleural friction-murmurs, generally of the creaking variety, are occasionally heard over vomicæ, but are of course valueless, as regards their diagnosis, because they may happen at any period; but during the whole of the third stage the patient is more than ever liable to secondary pleurisy in distant parts; hence friction-sounds of various kinds are frequently met with where pain is complained of.

When amphoric resonance, or the cracked-pot percussion-sound, or amphoric respiration, announce a very large cavity, gurgling rhonchus will seldom be heard, except perhaps at the very bottom, but a new sound may be developed by any effort of the patient, such as coughing, speaking, or breathing loudly, and sometimes without it—termed metallic tinkling.

It would be useless to enter into the many speculations as to the cause of this phenomenon; it will suffice to state that the sound exactly resembles the falling of a sharp metallic substance into a glass or metal jar;—sometimes reverberating and giving rise to what has been called metallic echo; and that it declares the existence of a hollow space filled with air, and containing a fluid. I regard it as a very rare attendant upon tuberculous cavities, never having met with it in the numerous cases I have examined; in hydro-pneumothorax it is very common, and the anatomical analogy between the two diseases would lead to the supposition of the former occasionally giving rise to it; I can only affirm that it seldom does so.

The last sign to be considered is pectoriloquy, which is a yet further modification of vocal resonance, and bears the same relation to bronchophony as cavernous respiration does to bronchial, and cavernous rhonchus to the crackling varieties. Pectoriloquy signifies the cavernous voice, and if, instead of speaking, the patient cough, the tussive resonance will be similarly modified (cavernous cough). In pectoriloquy the sound is more circumscribed than in bronchophony, the words are more articulate, and seem produced within the stethoscope, and close to the ear. Very often, although there is abundant proof of a cavity, there is but little pectoriloquy, or it is hardly separable from bronchophony, which may arise from a want of certain circumstances indispensable to the production of the former—viz. a moderate size, emptiness, and closeness to the surface, of the vomica. The loudness of the voice has but little influence in its production; but if the patient be directed to whisper, it becomes more distinctive (whispering pectoriloquy).

Of all the signs of pulmonary excavations, I believe pectoriloquy is the least to be depended upon; because, in the first place, it is not very often met with in a perfect form; and, in the next, many healthy persons, with thin chests and peculiar intonation of voice, have what may really be termed a natural pectoriloquy. I have especially observed this amongst French persons, and attributed it to the peculiar tone of their language; and it was in the French hospitals that I first

began to distrust pectoriloquy. I confess that I am now seldom in the habit of employing it in diagnosis, both for these reasons and because other signs are generally sufficient, although I admit, that when well marked, it is very characteristic: whenever I desire its assistance, I invariably listen for "whispering pectoriloquy."

The tussive resonance in cavities (cavernous cough) is of the same value as the vocal, and for the same reasons, but when well developed is perhaps even more characteristic. It is a ringing and metallic sound apparently produced close to the ear, often of sufficient intensity to cause a very painful sensation to the auscultator, and requires for its production the same conditions as pectoriloquy.

When the cavity is of very large size, and under circumstances favorable to the production both of the amphoric sound on percussion and amphoric respiration, the resonance of the voice and cough is attended with still further modification. When the patient speaks, the voice (amphoric voice), instead of being close to the ear and articulate, as in pectoriloquy, has more the character of bronchophony, but is hollow and metallic, and resembles the sound produced by speaking into an empty vessel. Precisely the same quality of sound attends coughing (amphoric cough), and the two will generally be found together. On the whole, I believe the amphoric voice and cough are of more value than the cavernous, being more peculiar—impossible of imitation in any healthy condition—and, under favorable circumstances, more constant in occurrence. There are but two pathological states which can produce these amphoric sounds—viz. large vomicæ and pneumothorax; but with the aid of other signs, and the history of the case, one can rarely be mistaken for the other; for whilst the former is nearly always at the upper part of the lung, and of comparatively limited extent, the latter exhibits itself over the greater part, if not the whole, of one side; the sudden invasion and severity of the attack would also suggest the idea of pneumothorax, by contrasting strongly with the chronic course of a large vomica.

SECT. IV.—DISEASES OF THE CHYLOPOIETIC SYSTEM.

Art. 18.—*Post-Pharyngeal Abscess.* By J. Henry Clark, M.D., Newark, New Jersey.

(*New York Journal*, July, 1849.)

[The following case of disease is interesting on account of its great rarity, and the extreme difficulty of diagnosis which characterised its whole course.]

The Rev. Thomas Cochrane, æt. 49 years, of phlegmatical temperament, and of plethoric habit, who had enjoyed hitherto good health, was seized on Sabbath evening, December 24, 1848, with a very violent inflammation of the throat. He had preached during the day with considerable difficulty, but he had no previous intimation

of the attack, except the impression that for some months he had articulated with less ease, and had occasionally a sensation as of choking.

On the afternoon of December 28, the author was summoned hastily to his house. He had just reached home, after exposure to a severe snow-storm. Found the patient pillowed in a rocking-chair thrown far back, his head thrown back upon his shoulders, breathing with extreme difficulty. He had not swallowed anything for about forty hours. The obstruction appeared to be situated low in the pharynx, and the aperture, blocked with mucus, through which the air forced its way, was scarcely larger than the handle of a cataract needle. The voice was entirely lost; the patient could not whisper so as to be understood without much difficulty; pulse 130, full and forcible; skin somewhat hot, countenance sallow, expression wearing and anxious. He was ordered six leeches to the larynx, and I watched the effect, prepared to introduce a hollow bougie if necessary for the relief of the threatened suffocation. Considerable relief was procured; but as it did not progress, the pharynx was touched next day with a solution of argent. nitrat. ℥ss to ℥j. He rapidly improved until January 30, when the author was hastily summoned on account of a return of the extreme difficulty of swallowing. No cause for this could be seen. The pharynx was pale, and the glands of the throat presented a natural abnormal appearance; still the pulse was frequent and irritable (its frequency having considerably increased within twenty-four hours), and there was evidence of perpetual pressure upon the pharynx. Dr. Pennington called in in consultation. We ordered the application of two leeches near the point of pressure below the pharynx, where there had been some sense of tension from the earliest period of the attack.

For the next few days there was little change; but on the 6th of February attention was called to a small tumour near the sterno-mastoid muscle. This was now suspected to be an abscess; and on the 15th, after an unsuccessful previous puncture, a large quantity of pus was evacuated. His powers from this time declined; and he died on the 24th.

Post-mortem.—A large sinus was found beneath the platysma and deep cervical fascia of the neck. It presented a smooth glistening surface, following up the course of the muscle; the sinus was found to communicate with an enormous cavity, bounded posteriorly by the almost denuded bodies of the cervical vertical. The pus had nearly made its way into the cavity of the chest on the left side, exposing the patient to instant death by suffocation.

The lungs were found considerably tuberculous, and in many points small abscesses had formed. There was but little effusion into the cavity of the pleuræ; the heart was healthy. Believing that we had reached the cause of death in the condition of the neck and chest, we extended our examination no further.

The post-mortem examination explains the cause of the partial sweats, the difficulty of swallowing, the inability to sustain the head, and many other symptoms which before no explanation could solve.

[On this case the editor of the 'New York Journal' remarks:]

"We agree with the writer that the foregoing is an exceedingly interesting case. To the pathologist, as well as surgeon, it offers material for reflection. That the "small abscesses" found in the lungs on the post-mortem examination were the result of purulent absorption there can scarcely be a doubt. As such, then, they were the consequence of the previous disease (post-pharyngeal abscess). If we remember that the symptoms which supervened on and after the 12th of February were such as frequently accompany the commencement of purulent infection, and that the "slight pleuritic attack" on the 22d was but the more full manifestation of the consummation of such a state, we are led to believe that these abscesses were metastatic in their character, and clearly the result of purulent absorption. The rapidity with which such changes take place should lead us to institute repeated and careful examinations of the chest for the detection of the same, although the department of therapia may not be in a marked manner advanced by such knowledge."

Art. 19.—*On Large Doses of Bismuth in Gastric and Intestinal Affections.* By M. Monneret.

(*Gazette Médicale*, and *Medico-Chir. Review*, July 1849.)

[M. Monneret has for a long time exhibited bismuth in large doses in various stomach and intestinal affections.]

Simple Diarrhœa.—In the simple diarrhœa which follows imperfect lactation, he has found it very useful, large doses curing such in a few days. So, too, after weaning, and the injudicious diet so often adopted, the bismuth, in doses of three teaspoonfuls a day, soon removes all symptoms of disordered digestion, especially the serous diarrhœa so often produced in these cases. Simple diarrhœa is of much rarer occurrence in the adult; still examples are met with in which we cannot attribute it to either phlegmasia or ulceration of the intestines, as in the granular disease of the kidneys in chlorotic women, in women become anæmic from cancerous degeneration of the uterus, and in some cases of chronic disease of the heart, or in commencing phthisis. Those cases in which the diarrhœa is serous, and results from an atonic state of the gastro-intestinal membranes, best yield to this medicine. It should be given in gradually-increasing quantities, from two drachms to twelve or more daily.

Diarrhœa symptomatic of intestinal lesion.—In spite of the presence of symptoms indicative of inflammatory action, the author has frequently administered the bismuth to children with great success. So, too, he has found it very useful in some subjects of phthisis suffering from obstinate colliquative diarrhœa, and even in the diarrhœa of typhoid fever, when the intestinal canal was certainly the seat of very numerous ulcerations. In this last case its utility is not very permanent; but it has the advantage of inducing the tolerance of articles of diet or medicine, which without it would be rejected.

Cholerine.—The frequency with which gastro-intestinal disturbance precedes true cholera is well known, and the desirability of its suppression is evident; and to this end large doses of bismuth succeed

better than any other means. It is most suitable in the cases in which with the diarrhœa there are nausea, vomiting, gastralgia, colicky pains, borborygmi, and anorexia. The cases are innumerable in which the author has been enabled rapidly to relieve these symptoms, without any aid from opium, by giving eight or ten drachms daily. The only inconvenience resulting is a certain amount of constipation.

Gastralgia.—Various observers have already admitted the great utility of this substance, both in idiopathic gastralgia, and in the forms dependent upon hysteria, hypochondriasis, chlorosis, &c.; but it has frequently failed in the hands of others, by being given in doses of two or three scruples daily, in place of twelve or fifteen drachms; and it is taken with such ease, that the patients voluntarily continue its employment after the pain has ceased, until the gastro-intestinal functions are thoroughly re-established. The idiopathic forms of gastralgia, so often met with in sedentary or literary persons, and in those suffering from depressing emotions, or from abuse of alcohol or coffee, are those which are most successfully combated. It has often, too, enabled the stomach to bear those tonic aliments, whose slow and painful digestion, accompanied by cephalalgia, drowsiness, and pain in the back and limbs, is so often observed in chloro-anæmic patients. This medicine only produces a temporary relief in gastralgia, dependent upon organic disease of the stomach, except when this viscus secretes a large quantity of acid fluid.

Vomiting.—Vomiting may depend upon a simple gastric neurosis, and then the bismuth can be very usefully employed. It is also useful in the vomiting of pregnancy, and that accompanying dysmenorrhœa; but its efficacy is less certain than in affections of the gastro-intestinal tube, and is never so great as when diarrhœa, colic, and flatus are present. From whatever cause pain manifests itself during digestion, we may relieve it by mixing the sub-nitrate freely with the articles of food.

Administration and action.—It should be given in powder, and best so with the first spoonful of broth or gruel. It excites no disgust, especially if placed between two bits of bread soaked in broth. Children take it readily with milk or ptisans. The author has never given less than from two to three drachms daily, nor more than twenty, and he has never observed the slightest inconvenience from these large doses; and it is his custom to give it to the children in his hospital by spoonfuls or tablespoonfuls, without observing more exactitude, so innocuous is it. So imperfectly is this fact known, that the chemists hesitate in preparing his prescriptions in which these large doses are ordered. The author cannot conceive why this substance was ever set down as an irritant poison, as he has never found the slightest irritation from the largest doses given to either the healthy or the sick; and post-mortem examination proves that, beyond patches of black discoloration, it produces no effect on the mucous membrane, the consistence of this remaining quite normal.

ART. 20.—*On Nitrate of Silver in Jaundice.* By Dr. PEEBLES, U. S.

(*American Journal of Medical Science*, July.)

[We report the following case, without pledging ourselves to the belief that the benefit produced was not a spontaneous act of nature rather than the effect of the medicine prescribed. It is, however, quite possible that, in certain cases of jaundice arising from chronic duodenitis, the nitrate of silver might be beneficial, by subduing the vascular engorgement of the mucous membrane by which the ductus communis is blocked up. The case in question was one of simple jaundice, and the relief prompt, the coloration disappearing in a week. The author explains the principles which guide him in the employment of the medicine, in the following account of the disease:]

Icterus is often of simple origin. A man may become completely jaundiced before he is aware of any very marked deviation from his usual health.

An emotion of the mind has been known to produce it. In such cases there always exists a *predisposition;* and I have observed that this predisposition consists in a chronic gastric disorder, often too little manifested to excite the patient's attention. Dyspepsia and chronic gastric irritation, therefore, are the chief predisposing causes of this form of jaundice. Three fourths of these cases coming under my notice have occurred in persons addicted to the excessive use of tobacco. The method by which this habit produces the predisposition is of easy demonstration; it establishes chronic irritation of the gastric mucous membrane, which irritation, as well as the jaundice which follows, is speedily removed by the use of the nitrate. The coexistence of jaundice with disease of the primæ viæ is well enough known. It generally, to some extent, accompanies ileus. Nor is the recommendation of remedies for its removal, addressed solely to the stomach, possessed of any novelty. In simple chronic idiopathic jaundice the stomach is always the most complaining. It is often preceded by a disposition to spit up the food, of several months' duration. Then the urine is observed to gain, and the fæces to lose, colour. The gastric distress increases as the disease progresses; and when it is fully developed the blandest article of diet creates a most unpleasant feeling of distension and weight in the stomach. There is, in addition, pain in the epigastrium, extending around, and sometimes covering, the entire hepatic region. It is in such cases as these that the nitrate of silver has proved itself of such benefit.

The method by which the remedy is supposed to act in the cure of jaundice can be regularly divined after the above hints. This method is, in my opinion, clearly illustrated by its prompt action in the following case. A man, who, previously to the attack, had suffered several months from a tendency to diarrhœa, whilst just beginning to convalesce from pneumonia rapidly became jaundiced. His acute pulmonary disease had been treated by local depletion, calomel, and opium, and he was slightly ptyalized. After having for some days a dry and loaded tongue, the crusts broke away leaving a clean, glazed, and very red surface. It was precisely at this juncture that jaundice

manifested itself. Here there existed unequivocal testimony of gastro-enteric irritation. The condition of the mucous surface of the internal organs became itself a separate disease, and, as the pneumonia was decidedly on the wane, nitrate of silver was ordered for its removal.

The patient took two doses, and in eighteen hours the hue of the tissues had disappeared, and there followed a rapid decrease of colour in the urine with return of healthy alvine discharges. On the third day not a trace of the jaundice existed. Nitrate of silver according to this, it appears, cures jaundice by modifying the condition of the mucous membrane of the stomach and primæ viæ.

This view of its mode of operation, it will be perceived, brings down the pathology of jaundice within very narrow limits; and the question, Can simple gastro-enteric disorder of any kind give rise to jaundice? at once arises. Only an approximation to a perfect solution of such question is at present attainable. Facts sufficient exist, however, it appears, to warrant such an inference. Drs. Graves and Stokes long ago held that jaundice might arise from the presence of glairy mucus in the duodenum, obstructing the orifice of the common duct; and most writers mention that it may arise from turgescence of the coats of this intestine. Now, the presence of viscid mucus in the duodenum clearly implies a modified and deranged state of its mucous surface, —a fact which, if the views we have above expressed be correct, is of itself sufficient to give rise to jaundice without the supposition of an obstruction of the common duct. That such obstruction is not necessary to originate jaundice is well known. The disease does not always exist when it occurs, and it is often present when there is proof of no such obstruction existing. But whether this be necessary or not, we have the authority of these able physicians that the disease may *originate* in the duodenum. This is one of the most interesting points in the whole inquiry. It separates the disease—we mean that form of it under consideration—from the idea of hepatic disorder, and has great practical bearing upon its treatment.

I confess my opinion, that original hepatic disorder is absent in simple idiopathic jaundice, if not formed, was certainly confirmed by witnessing the action of nitrate of silver in its removal. In none of the cases treated have I found it necessary to resort to mercurials or other cholagogues, to restore proper hepatic action; on the contrary, I have invariably found this to occur without such agents, indicated by healthily-coloured alvine discharges, appearing always subsequently, although in a few days after the skin begins to clear, and by the recovery of the tone of the digestive organs.

The part which the liver plays in its production is not of easy solution. We know that extensive disease of the organ may exist without jaundice.

The idea of cystic obstruction causing reabsorption of bile is not now universally entertained by the best pathologists. The tendency of modern investigation points more to the assimilating functions for an explanation of jaundice. Bile-pigment is in excess. Sherer's analysis of the bile found in the gall-bladder of a jaundiced girl, demonstrated that its preponderance over that in healthy bile was enormous. He contends also that only this pigment, and not bile elements,

is found in the urine. Simon, although he asserts that these latter do exist in the urine of jaundiced patients, yet evidently shows that their presence is not universal. Lecanu found only bile-pigment in the blood of jaundiced patients. Further speculation respecting the origin of jaundice, however interesting, is not necessary for our present design.

The treatment is begun by giving $\frac{3}{4}$ to a grain of the crystallized nitrate of silver twice a day. It is important that it be given on an empty stomach. The remedy I have found will remove the disease without this precaution, but much sooner with it. Ten days I have found the utmost time required; often improvement is observed in the hue of the skin on the second day.

But the patient experiences great relief immediately. The uneasiness of the stomach and the sense of fulness after eating disappears, and there is improvement in the digestion. When the disease is accompanied by constipation, as it often is, for the sake of convenience a laxative is combined. A pill, given twice a day, of 1 gr. argent. nitr. cryst., 3 grs. p. rhei, ext. taraxac. qs., answers a good purpose. Of course the patient must observe an unirritating diet.

ART. 21.—*Auscultatory Sign of Enlarged Liver.*—[Dr. Walshe has discovered a stethoscopic indication of enlarged liver, which he describes as follows, under the name of "*hepatic compression rhonchus.*"]

It coexists with inspiration only, or, indeed, seems to be rather superadded to the sound of inspiration, than to coexist with it, not commencing until the inspiration-murmur appears almost at an end. It is brought out in a peculiarly slow, drawling, and (if I may be allowed the expression) lazy manner, its mode of evolution being in this respect the exact reverse of that of the crepitant rhonchus of pneumonia. It consists of a variable (but commonly a great) number of excessively fine, dry crepiti, rather superficial than deep-seated; is rendered audible by forced inspiration only, and may be heard in front, at the side, and in the back of the right half of the chest (least commonly in front, however,) at, or near to, the upper edge of the liver. Its existence is completely independent of any affection of the lung itself; and I have never found it on the left side, in these cases of liver-enlargement. The characters of this rhonchal sound are so peculiar, that a mere tyro in the art of auscultation would be able to distinguish it from all other varieties of rhonchus,—it differs essentially, as the description I have just given proves, from crepitant, subcrepitant, and dry, crackling, pulmonary rhonchi, and from pleural rhonchus. Of its mechanism I am not prepared, at present, to offer any demonstration; but taking into consideration all its characters, it appears to me to be most feasibly explicable as follows:—The lower portions of the lung, pressed upon by the enlarged liver, undergo a sort of creasing, or condensation, which, in ordinary breathing, interferes with their expansion. By forced inspiration, the portion of lung implicated will readily be understood to be *uncreased*, and so conceivably a series of sounds, such as I have described, is drawingly

produced. Another fact in the history of this rhonchus strongly corroborates this hypothesis of its mechanism—namely, that it often ceases to be audible, for a time, after from one to some five or six forced inspirations; the lung seems to require rest and time to be again creased up. Should further experience give the stamp of demonstration to this view of its mode of production, we shall have collateral support given to the doctrine I have long taught (and which, so far as I know, has not been refuted), that the crepitant rhonchus of pneumonia is formed, not in the air-cells or capillary bronchi, but in the pulmonary parenchyma itself. I am not able, as yet, to make any positive assertion concerning the frequency with which the rhonchus under consideration attends on enlargement of the liver; but, on the other hand, I am in a position to affirm, that in no single case of notable increase of bulk of that organ which has fallen under my observation, since my first discovery of the rhonchus, have I failed to substantiate its existence. The sound may, it is true, escape detection on one or more occasions, but has never been absent for a series of days. On the other hand, I have not met with it in other conditions of disease; though doubtless, if my theory concerning its formation be well founded, it will probably be ascertained to accompany a variety of conditions, causing slight compression of the lung.

Lancet, May 19, 1849.

Art. 22.—*Case of Hydatid Disease of the Liver, with Remarks by* Dr. Owen Rees.

(*Medical Gazette*, June 29, 1849.)

A man, age not known, had been well up to two years since, when he suffered first from pain in the epigastrium, occurring at intervals. Five months after, he noticed a tumour in the median line of the abdomen. On admission he was sallow and emaciated, complained of pain and tension in the epigastric region. A tumour occupies the hypochondriac and epigastric regions, giving an indistinct sensation of fluctuation. No pain on examination; no sickness. Aneurism was put out of the question by attentive examination. After treatment by external application of iodine without effect, Mr. Hilton punctured the tumour with a fine trocar, the circumference of the tumour being previously strapped tightly with adhesive strapping. Nine drachms of turbid fluid were evacuated. A larger instrument was subsequently introduced, by means of which a large quantity of collapsed hydatids were evacuated. Several others were removed from time to time, and a purulent discharge of an offensive character was established. Under a tonic and sedative treatment, the character of the discharge improved and diminished in quantity, and in the course of a few weeks he was discharged cured.

[Upon this case, Dr. Rees makes the following remarks:]

The great point of importance in cases like the preceding is to ascertain as early as possible the seat of the tumour, and its nature. Now tumours have occasionally been observed in such positions in the abdomen as to lead to a belief that they belonged to the liver, but have

afterwards proved to consist of disease of the kidney. Two such cases are recorded by Dr. Bright, in one of which the similarity was such as would have deceived most persons into the expression of a very decided opinion that the liver was the organ involved. Now, in diagnosticating these cases, it is necessary that you should carefully consider the relative position of the abdominal viscera; and you cannot perhaps have two better guides in cases like those I have related, than the stomach and the colon. In tumours of the abdomen connected with the kidney, you will generally be able at some period to detect the colon passing over the tumour. In order to discover whether this happens, it is necessary to examine frequently, placing the patient in different positions, and, moreover, varying the condition of things by aperients. The examination of a full abdomen will sometimes fail to throw light on what will become sufficiently obvious after the use of a purgative; but I must add that the reverse of this is also the case. Thus the position of a colon may sometimes be better detected when the viscus is full. As regards the stomach this is prominently the case, and no better time can be selected for ascertaining its true relative position to a tumour than after a meal, when percussion gives us the various resonant sounds derivable from the presence of air and fluid. When I examined these cases of hydatid disease, and more especially the first, I was always enabled, after the patient had taken food, to determine by percussion, not only that the tumour covered the right side of the stomach, but to ascertain exactly the point at which the stomach dipped under it. The tumour itself was dull, but a certain amount of resonance could be obtained from it by striking hard when the stomach was full, the sound being obtained through the tumour from the stomach beneath. This source of fallacy is of course easily avoided.

There is a peculiar sensation felt by the apposed finger when percussion is practised on a hydatid cyst. This is best described as a thrill, following the blow of the hand after a scarcely appreciable interval of time. I felt it in both these cases, and fancied the indication had not been previously observed. I find, however, that it has been before noticed by others, and is spoken of in Dr. Copland's Dictionary. It is very peculiar and distinctive. There was at the same time an imperfect kind of fluctuation to be felt in these tumours. You must especially note the following points in their history:—They both had been many months developing; they were not accompanied by any general disturbance of health; the patients had not the aspect of malignant disease; and although the tumour was decidedly connected with the liver, no jaundice had ever been observed, nor any other form of hepatic derangement; indicating a probability that what we observed was not disease of the organ, but an extraneous growth attached to it.

As regards malignant disease, no enlarged veins could be detected coursing over the abdomen, which is often observed in those suffering from malignant tumours. No pulsation could be felt, unless great pressure was made, and under no conditions could it be detected when the patients were placed on their hands and knees in bed, so as to allow the tumours to hang forward, and away from the great vessels

lying on the spine. I have stated that the tumours were dull on percussion, which of course was what we should have to expect in such a mass as a hydatid cyst. Had I been able, on the contrary, however, to obtain any amount of resonance from the tumour by using moderate force in percussion, I might probably have had a suspicion that the tumour was produced by a fæcal collection in the colon, or some other disease than hydatids. I at one time thought that possibly an enlarged gall-bladder might be present; but there was not such fluctuation as we might expect in such cases, and other circumstances quite decided me as to the real nature of the disease. You will observe that I had recourse in the first instance to the use of absorbent remedies. No success, however, followed their use.

A fact also appeared during the progress of this case, viz. the excretion of a yellow discharge. This yellow matter was examined, and satisfactorily ascertained to be bile. In respect to this symptom, it must always be regarded as unfavorable, indicating, as it does, that the liver has become involved, and probably, as the result of ulceration, that some of the hepatic ducts communicate with the cyst. This fact shows, that had the operation been much longer delayed, we should have had serious mischief produced by the pressure of the tumour. A communication between the hepatic ducts and the cavity of the cyst was shown to have occurred in a case of hydatid disease lately treated by Dr. Addison, and which some of you probably saw, where, owing to the patient not having soon enough come under his care, the operation failed to preserve life. Let us now consider what result we must expect if cases such as these are not easily diagnosticated, and means taken to relieve the patient by operation. The histories we have of recovery or spontaneous cure are far from encouraging. Cases are on record, however, in which the patient has even survived the rupture of what was supposed to be a hydatid cyst into the peritoneal cavity. Dr. Bright relates such a case; but there is no proof that the disease was really hydatid, and if it were, it could scarcely have been one containing hydatids in its cavity. These hydatid tumours, however, for the most part take a different course, working their way through organs, and eventually allowing their contents to escape, either through the bronchial tubes, the intestinal canal, or the umbilicus. They will also sometimes approach the surface of the abdomen, become adherent, and eventually discharge themselves. Now in all these methods of spontaneous discharge you must observe in what extreme peril the patient is placed. There is a necessity for the setting up of inflammation, of burrowing by ulceration, and consequent injury to, or destruction of, important organs, so that at last we only obtain a more protracted fatal result. Compared with all this, I believe the danger of the operation I have described is trivial; and if we can only make an early diagnosis of the true nature of the disease, we have the satisfaction of relieving our patient without permitting injury to any organ whatever. Of one thing you must be very careful, and that is, fully to impress your patient with the absolute necessity for perfect rest after the operation. You must fully enlist his assistance or you will scarcely succeed, as it is extremely painful to remain with any steadiness as nearly as possible in one position for two or three days and nights

together, which is necessary. In watching for symptoms after these operations, some care is requisite to avoid mistaking for peritonitis the soreness in the neighbourhood of the wound, and the stiffness produced in the muscles by lying in one position. It is necessary to support your patients well after these operations: let them have beer and full diet if they can take it, and watch the pulse for indications of debility rather than anything else. While the discharge was going on, much support, as you observe, was required in both cases, and a depression of power occurred which I believe would have baffled us had we not previously kept up constitutional power.

Art. 23.—*Extracts from a Report on Portal Phlebitis.* By W. C. Roberts, M.D.

(*New York Journal of Medicine,* May 1849.)

[A committee has been appointed by the New York Pathological Society, to report on the diagnostic signs of portal phlebitis; we give the following abstract of their labours.]

1st. Phlebitis is of two kinds—acute, sub-acute or adhesive, acute and suppurative. In the first variety, generally, the symptoms, general and local, are of less intensity; in the second, they are much more severe, the fever is of a typhoid form, only, according to Schœnlein, met with in this variety, of which it is therefore pathognomonic.

2d. That, according to the same authority, the local symptoms are the same in both, but the febrile reaction and mode of death are different, and that in the adhesive form the early diagnosis is difficult, if not impossible, and, at a later stage, only approximative.

3d. That chills always and only occur in the suppurative variety, causing the remittent form of fever, which is the natural type of the disease, to resemble an irregular or erratic intermittent, and are markedly indicative of the true nature of the case.

4th. That the six cases examined by your committee were instances of phlebitis, as shown by their accordance with the general symptoms of the disease, not less than by the post-mortem examinations, three being of the adhesive, and three of the suppurative variety.

5th. That in the suppurative variety, symptoms of hepatic, splenic, pneumonic and cardiac diseases display themselves, which depend upon the deposit of pus by metastasis in the parenchymatous viscera: but this does not invariably happen, nor always depend upon the presence of transported pus when it does.

6th. That bilious phenomena may occur in general phlebitis, from this cause, without an inflammation of the veins of the liver necessarily existing; or that they may depend solely upon the latter cause, in the absence of purulent deposits in the hepatic parenchyma.

7th. That certain symptoms, as pain in the middle point between the naval and ensiform cartilage increased by pressure, extending along the tract of the splenic vein, and those of the liver, differing in each variety, or in the right hypochondrium only, jaundice, frequently a primary symptom, and resulting after fits of passion, a bitter taste in the mouth, a yellow coated tongue, vitiated bilious discharges, a bilious

tinge of the urine, and dropsy, in the adhesive variety only, are the local signs which point to the existence of phlebitis in some hepatic vein, although, for reasons previously assigned, these are not in every case characteristic nor uniformly present in the commencement of every case.

8th. That it is only in cases where plastic lymph is effused into the vein, that the distension of the superficial abdominal veins occur; and that neither this, nor the enlargement of the spleen with which it is so often associated, are pathognomonic of portal phlebitis, but may depend upon obliteration of other large abdominal venous trunks.

9th. That the fever of phlebitis, in general, is, in both varieties, of the burning pungent kind: in the adhesive retaining its inflammatory character until the exudation of plastic lymph occurs; in the suppurative, soon assuming the torpid typhoid character, to which variety, also, the chills and metastatic abscess are peculiar.

10th. And lastly, that profuse and viscid sweats are among the distinctive evidences of suppurative phlebitis.

SECT. V.—DISEASES OF THE GENITO-URINARY SYSTEM.

ART. 24.—*Cases of Suppression of Urine, with Remarks.* By Dr. J. C. HALL.

(*Lancet*, June 2, 16, July 7, 1849.)

[The author records several cases of total suppression of urine, the most interesting of which is that of a farmer, in whom there was complete suspension of the action of the kidneys for more than eight and forty hours. He recovered under the use of purgatives and stimulating diuretics. On this and the accompanying cases, he make the following comments:]

Suppression of urine depends on a variety of causes, and may be either *entire* or *partial*. Three kinds are mentioned by Dr. Prout: 1. *Inflammation;* 2, *Spasmodic;* 3, *Mechanical*. A singular case of suppression of urine, from a mechanical cause, is related in a letter from Sir B. C. Brodie, now before me. He says: "I had a patient with an enlarged prostate, which prevented him emptying the bladder. For some time he had not secreted more than half a pint daily; but the secretion was immediately trebled on the catheter being used two or three times daily."

Many years ago, I opened the body of a gentleman, who had suppression of urine for some few days before death, and *died comatose*. There was a large abscess, which had passed backwards from the kidney and burst into the loins; and we found a calculus of oxalate of lime, of the size of a walnut, occupying the whole of the pelvis of the kidney, and extending into the infundibulum. The other kidney

was increased in size; and had, no doubt, for some time performed double its usual duty.

In suppression of urine, from whatever cause arising, if no urine be separated from the blood, death, ushered in by coma, quickly takes place. Death is said to result from urea being detained in the system. If the kidneys, from whatever cause, cease to secrete urine, urea accumulates in the blood, is carried with it to every part of the body and acts as a poison, but more especially upon the brain. There are certain exceptions to the general rule, that suppression speedily proves fatal. Cholera patients will sometimes remain days without secreting a drop of urine, and yet recover. In such cases I have no doubt that the urea is drained from the blood by the continued and enormous evacuations from the stomach and bowels.

We have on record some truly singular stories of persons remaining for days—and even for weeks—without secreting a drop of urine, and who yet have continued in a good state of health. Some of these narratives are evidently altogether unworthy of credit; others are sufficiently well authenticated to demand at our hands a careful examination.

The two most common emunctories which supply the place of the kidneys appear to be the bowels and the skin. We have an example of the effect of large evacuations from the stomach and bowels in cases of malignant cholera; for, with total suppression of urine, there is no coma. In the case of Dr. Parr, there was no vicarious evacuation, except a profuse sweat for a day or two. In this case there could not have been any imposture; the patient was in an hospital, and constantly watched. No mention is made of the state of the evacuations from the bowels. In Dr. Richardson's patient, there was an habitual diarrhœa. M. Andral infers that the blood contains, in variable proportions, the elements of all the secretions; that, under ordinary circumstances, these elements are separated from the circulation only by those organs whose special structure is adapted to bring about such separation; but that, under particular states, these elements may be separated from the circulation by other channels than those regularly intended for the purpose,—not, indeed, in the condition of perfect secretions, but in a more simple form, containing, however, the essential elements of these secretions. The conclusion to which the majority of the most celebrated chemists have arrived, is, that the urea excreted by the kidneys, is derived, for the most part, from the transformation or decay of the textures of the body; most of their carbonaceous matter being extracted by the affinity of the oxygen of the blood, and carried off by the lungs in the form of carbonic acid gas. The effect of the non-secretion of urine on the system, has been proved also by the experiments of Dumas and Prevost on animals in which they had extirpated the kidneys. On the third day after the operation, the poor creatures were seized with vomiting, and a profuse diarrhœa of a brown liquid, which, Dr. Day informs us, the recent researches of Bernard and Barreswil have proved to contain a considerable quantity of ammoniacal salt, resulting from this elimination of urea from their surface. Fever, with heat, varying sometimes as high as 110°, and and sometimes as low as 92°, accompanied this purging; pulse very

small and frequent; respiration oppressed. Death took place from the fifth to the ninth day. The post-mortem appearances were, effusion of serum on the brain, copious mucus in the bronchi, and bilious fluid and fæces in the intestines. The urinary bladder was much contracted, and the liver appeared inflamed. The blood was more watery than natural, and was found to contain urea. From five ounces of blood taken from a dog, twenty grains of urea were obtained; and two ounces of blood, taken, under similar circumstances, from a cat, yielded ten grains.

In *injuries of the spine in the vicinity of the kidneys*, or *tubercular disease of the cord*, we have always more or less retention of urine, with considerable febrile excitement: and very frequently a marked diminution of the quantity secreted. In some patients, the urine first secreted, although acid and free from mucus, has a very offensive smell. In other cases, it deposits a yellow amorphous sediment. The most common change is a peculiar ammoniacal odour, and the deposition of a large quantity of adhesive mucus, the urine being alkaline. After some time, phosphate of lime, secreted by the inner coat of the bladder, becomes blended with the mucus, which is also streaked with blood. This state of things may arise three or four days after the accident, or they may not be noticed for a week. In one case I remember, they did not make their appearance until nine or ten days after the accident. I am not aware that they occur after injury to any particular portion of the spine; in fatal cases, they remain to the last; in others, which recover, they sometimes go on for three or four weeks. Another peculiarity, to which my attention was directed by Sir B. C. Brodie, consists in the variation which takes place in the state of the urine: to-day it is alkaline, depositing adhesive matters; to-morrow it is clear and acid; and the day after, perhaps, it is again alkaline. Suppose a man falls from a ladder and injures his spine, very little disturbance following, the accident may be altogether disregarded. What is too often the result? In a day or two the patient is attacked with paraplegia; then we may have gangrene of the nates, and retention of urine; in a week, or perhaps longer, the secretion of urine becomes day by day diminished, and is, in the end, altogether suppressed; then we have coma, speedily succeeded by death. I mention these cases to direct attention to the very great importance of making a careful examination of cases of this kind. Dr. Williams thinks it very probable, that severe mechanical injuries or shocks operate by weakening the vital powers, by which the blood is perpetually purged from its own impure products. That this is, in part at least, their mode of action, appears clear, from their effect in suppressing or impairing the natural excretions; and, in such cases, urea has now and then been detected in the blood.

Treatment. 1st. *Cases of partial suppression of urine.* Such cases are very far from uncommon. A gentleman exposes himself to a cold atmosphere: for example, remains loitering about in his garden, on a cold April day; in the evening he complains of having "taken cold," and creeps to the fire; he has an attack of shivering; he retires to bed; his skin becomes hot and dry; the urine is small in quantity, and of a dark colour. This attack often continues for some days; after which,

under appropriate treatment, the urine gradually becomes secreted in larger quantities, and the patient recovers his usual health, the improvement commencing with the increased secretion of urine. This I have observed so often, that no doubt remains on my mind as to its correctness; and its bearing on the treatment of disease is highly important.

Dr. Golding Bird shows that the kidneys remove from the blood all excess of water, together with the metamorphosed products of effete tissues, or mal-assimilated food; that these organs are, in reality, the "depurators" of the system. He has come to the conclusion, that from 600 to 700 grains of solid materials are daily separated by the kidneys of a person in a state of health. He has also constructed a very important table, by which, in a moment, the relation between the specific gravity of the urine, and the amount of solids contained in an ounce of it, may be ascertained. Dr. Golding Bird also draws attention to the fact, so well known to all whose eyes have wandered over the Hippocratic writings, that there is "an obvious relation between the termination of some phases of disease and a crisis by urine." He has been enabled, by the powers of modern science, to prove that what was said by the old physicians, with regard to a crisis by the urine, is founded in fact.

2d. *Cases in which there is a total suppression of urine.* It remains only to say, in conclusion, a word or two on the treatment of those singular cases to which Sir H. Halford first of all directed our attention,—in which, independent of acute disease—independent of any derangement he could discover in the structure of these organs—their secreting office was completely suspended. This constitutes the disease which Dr. Willis has named "anuria", said by him to terminate in coma in four or five days, and in death in a few days more. I venture to say that a fatal result, according to my experience, occurs much more quickly. In three out of the five fatal cases which came under the observation of Sir H. Halford, a very strong urinous smell was observed in the perspiration for twenty-four hours before death. The patients all died with "symptoms of oppression on the brain."

Looking at those cases of cholera which have recovered, in which suppression of urine has continued some time, I am inclined to advise, at the first, that a full dose of calomel and colocynth, with a drop of croton oil, should be made into a pill and given to the patient; this to be followed by an aperient draught of infusion of senna, sulphate of magnesia, and cream of tartar. A large stimulating clyster should also be exhibited, so that the bowels may be largely purged three or four times; cupping over the loins; bleeding, if the state of the pulse admit of it; warm baths; a large blister to the loins; and full doses of powdered cantharides,—a remedy which was very successful in the hands of Sir A. Cooper, and which, in one case of total deprivation of urine, in which I was consulted, was most certainly followed by a re-secretion of urine, after all hope of success had been abandoned, and the recovery of the patient regarded as all but impossible.

Treatment, by powerful diuretics, may theoretically appear incorrect; but, so far as we know at present, it is one that has been found, practically, the most successful.

Art. 25.—*General View of the Causes of Albuminous Urine.* By Dr. Walshe.

(*Lancet*, April 21, 1849.)

[Albumen may appear in the urine under various circumstances, and is a symptom of trifling or grave import according as it represents a functional or an organic disease of the kidney. It becomes, therefore, a matter of importance to be aware of the different conditions under which this abnormal product may appear; and for this reason we have selected the following extract from a clinical lecture by Dr. Walshe. The lecturer commences by giving the following tabular view of the causes of albuminuria, each of which he subsequently proceeds to illustrate:]

ALBUMINURIA MAY BE CAUSED BY—

- A. Morbid states of the blood, as in
  - Scorbutus and Purpura.
  - Hemorrhagic, or "malignant" form of eruptive fevers.
  - Pyohæmia?
  - Absorption of albuminous (dropsical) effusions?
- B. Morbid states of the urinary organs
  - (*a*) Functional
    - Hæmaturia.
    - Saccharine Diabetes?
    - Renal Hyperæmia.
      - Mechanical.
      - Passive.
      - Active.
  - (*b*) Organic
    - 1. Which cause admixture during the act of secretion.
      - Nephritis
        - Acute.
        - Chronic.
      - Bright's Disease.
    - 2. Which cause admixture independently of the act of secretion.
      - Pyelitis.
      - Hydronephrosis.
      - Cystitis.
      - Abscess of Prostate.
      - Tubercle.
      - Cancer.
- C. Accidental admixture of genital albuminous products
  - Natural
    - Seminal
    - Prostatic
    - Catamenial

    } Fluids.
  - Morbid
    - Gonorrhœal
    - Leucorrhœal

    } Discharges.
- D. Doubtful agency in
  - Acute febrile affections.
  - Exanthemata.
  - Phthisis.
  - Pregnancy.
  - Gout?
  - Hysteria?
  - Chylous urine.
  - Use of certain foods and medicines.

A. Dr. Blackall was the first to state that the urine may become coagulable in cases of scorbutus and petechiæ. Rayer and Heller

also affirm the same fact. Nothing can be more readily intelligible than the occurrence, but its reality seems to me not fully established. The absence, in such cases, of a diseased state of the kidneys themselves, does not appear to have been proved by post-mortem examination. For my own part, I have succeeded but once in discovering albumen in the urine in cases of purpura; and in this instance the kidneys presented the anatomical characters of Bright's disease. It must be confessed, however, that my experience does not extend to cases of severe and prolonged scorbutus.

Again, without meaning to throw doubt on the statement of distinguished persons, that the malignant or hemorrhagic form of eruptive fevers may be attended with albuminuria, I should wish to impress on you the fact, that such fevers may possess the character in question to the very highest degree, and the urine, nevertheless, remain free from albumen.

The notion that pus can be translated from any part of the frame with its properties retained, circulated with the blood, and eventually passing away with the urine, render this fluid albuminous, rests upon the slenderest evidence. All precise observations in microscopical anatomy, healthy and morbid, are opposed to the doctrine; and direct clinical demonstration, of a non-fallible kind, has never been produced to throw doubt on the fair applicability of those observations in practice. Pus may be, and occasionally is, excreted with the urine in cases of secondary (or, so-called metastatic) abscesses, following purulent impregnation of the blood (pyohæmia), but I believe that it is then formed in the renal textures themselves. It is for this reason that narratives of empyema, pus, &c., said to be absorbed and discharged in cognisable substance through the kidneys, are, without the test of actual examination of these organs, altogether unsatisfactory.

Yet more important is it, that the anatomical state of the kidneys should be known in cases where the urine is found albuminous during the absorption of dropsical fluids. Unless these organs be proved to be sound, we cannot fairly ascribe such albuminuria to direct renal elimination of the absorbed dropsy.

B. The existence of albumen in the urine, as long as hæmaturia continues, is of course a matter of necessity, and calls for no comment. But the hæmaturia having ceased, does the discharge of albumen necessarily cease also? Here two conditions are to be distinguished. (*a*) In a case that remained for a considerable time under my notice, and in which occasional attacks of hæmaturia occurred, the urine continued to coagulate slightly for several days after all *naked-eye* appearance of blood-discoloration had ceased. It is important to add, that in this instance there were no grounds for suspicion even of the existence of Bright's disease. (*b*) On the other hand, I believe that in cases of renal hæmaturia (and, *à fortiori*, of urethro-vesical), as soon as blood-discs cease to be *microscopically* discoverable, no trace of albumen will be found.

Testimony concerning the connexion of albuminuria and saccharine diabetes is conflicting. That there is any necessary connexion between sugar and albumen, either as coexistences or sequences, is altogether out of the question. I have not, in the few cases of diabetes

which I have observed for any length of time, ever met with albumen; and Mr. Graham tells me that he never met with this principle in saccharine urine.

Renal congestion ranks as one of the most (probably the most) important causes of albuminuria. Mr. Robinson's experiments, showing its *mechanical* production by the ligature of the emulgent vein, are imitated in some morbid states. In certain cases of aneurism of the abdominal aorta, albuminuria has been observed, the renal tissues being sound. The fact appears explicable only by supposing the aneurismal sac to have pressed on the emulgent vein, and mechanically produced transudation of the serous part of the blood. Again, the power of *passive* renal congestion to produce albuminuria seems to be exhibited in cases of heart disease, *especially when there is great insufficiency of the tricuspid valve.* At least, I have in a few instances observed an albuminous state of the urine come and go, according as the general systemic venous obstruction was more or less marked. I of course here refer to cases where there was no distinct symptomatic evidence of Bright's disease; but I confess I cannot at this moment call to mind any instance of the sort, where I have had the opportunity of settling the matter thoroughly by post-mortem examination. Now it does not follow precisely, that though mechanical and passive congestion of the kidneys produce albuminuria, *active* congestion shall be similarly attended. Certain cases published by M. Martin Solon want the test of dissection. However, the albuminuria, of the exanthemata, seems scarcely, as a general fact, otherwise explicable.

We are now conducted to cases in which the structures of the kidney are more or less deeply affected. Nephritis of the simple kind seems to me not to have fully made out its claim, clinically speaking, to be regarded as a cause of albuminuria, or perhaps I should rather say, the conditions of its claim. Thus, if it be true that in cases of traumatic nephritis, albumen appears in the urine, along with other elements of the blood, it is not by any means equally certain that idiopathic renal inflammation (a very, very rare disease) is attended with a discharge of such urine. And, on the other hand, it appears to me to be very certain that an albuminous state of the urine does not occur where the renal textures become inflamed (independently of the mucous membrane of the pelvis and calices) in persons having stricture of the urethra or enlarged prostate. I would remark here (inferentially, both from my own experience, and from the analysis of carefully-reported cases), that if Bright's disease be found in an individual cut off by disease of the urethra or prostate, the two affections can only be regarded as merely coincident. Bright's disease never, I believe, arises through local causes.

The renal affections, so far considered, impress the albuminous character on the urine at the moment of its secretion; I now proceed to the mention of others, in which the albumen is added to urine, already formed, *in transitu* from the secreting organs outwards. The most important of these affections is certainly pyelitis, or inflammation of the mucous membrane of the pelvis and calices. Albuminuria dependent on this disease is generally most marked when the affection is of calculous origin; and then frequently a few blood-discs (quite insuffi-

cient to discolour the fluid to the naked eye) may be detected. The difficulty of distinguishing cases where the urine is albuminous, in consequence of pyelitis, from those where Bright's disease exists, is sometimes serious,—a fact which I will take an early opportunity of illustrating. Hydronephrosis, that rare malady, in which the pelvis and calices become distended into a huge pouch, (without the intervention of inflammation, in this differing from pyelitic distension,) is, in its advanced periods, sometimes attended with slight albuminuria. The contents of the distended pouch lose the urinous, and acquire the serous, character.

The influence of cystitis (as, also, of pyelitis) in producing temporary albuminuria is well exemplified by a case of paraplegia, to which I some time since drew attention. During the existence of pyelitis only, slight albuminuria was observed; when cystitis set in, the quantity of albumen suddenly rose greatly, falling again on the disappearance of the symptoms of vesical inflammation.

Abscess of the prostate gland, opening into the urethra, acts as a more or less prolonged cause of slight albuminuria. Tuberculous and cancerous diseases of the urinary passages (or, if communicating with these, of the renal substance) impregnate the urine with albumen, provided the softening process have set up in those morbid substances.

c. That the natural or morbid albuminous discharges from the genital organs should impregnate the urine with a small quantity of albumen under favouring circumstances, is no more than must be theoretically expected. Such impregnation, it is true, rarely occurs to any appreciable amount; it is practically interesting, more especially in regard of seminal discharge in the male, and of leucorrhœa in the female. The existence of spermatorrhœa may sometimes be detected by this condition of the urine, as likewise the vice of manustupration. Individuals having strictures of the urethra often void semen with the first urine passed after coïtus; the slight albuminuria thus arising, might by careless observers be mistaken for that significant of serious disease.

Leucorrhœa (so frequent a cause of the presence of epithelium- and exudation-corpuscles in the urine of the female, that unless due precautions were taken, errors would be constant in regard of the signification of those objects) does not produce distinct albuminuria so commonly as might be supposed. Still, it is an occasional cause of this state, and therefore possibly of error.

d. It is in many instances found that a trifling precipitation of albumen may be observed during the course of acute diseases, affecting persons whose renal organs are, in all respects, presumedly sound, and certainly free from Bright's disease. This albuminous impregnation is of temporary duration, appears at variable periods of the disease, and is utterly without (so-called) critical signification. M. Martin-Solon calculates that albumen appears in one eleventh of cases of acute disease. Whether any particular acute affection is more prone than others to produce this intercurrent albuminuria, I know not; Becquerel affirms, that he ascertained its existence in some of eighteen cases of acute rheumatism. The probable explanation of this temporary alteration of the urine is, that it depends on renal congestion;

if so, the frequency of albuminuria in this class of cases would afford a measure of that of renal congestion.

In the exanthemata, albuminuria seems to depend, likewise, on simple renal congestion, of a kind partly passive, partly active. In the more serious form, attended with external and internal dropsies, and occurring as an occasional sequence of scarlatina, the congestion is evidently connected with abundant accumulation of epithelium in the tubules, and has distinctly the anatomical characters of the congestive stage of Bright's disease.

In two or three cases of phthisis, I have known the urine become temporarily albuminous, without any attendant local or general symptoms, which could be supposed to indicate serious renal disease.

The discharge of albuminous urine has been noted as an attendant on pregnancy under various conditions. First, without accompanying anasarca, or other serious symptoms; secondly, with the train of evils commonly signifying the presence of Bright's disease. In this second class of cases, the renal state may or may not exercise evil influence on gestation and parturition. Thus (*a*) it has caused abortion, fatal or not, in the fifth month, and later; and convulsions, fatal or not, during parturition. Or (*b*), gestation goes on to the full period, and parturition takes place naturally. Under these circumstances, three varieties of state may follow delivery. First, albuminuria and anasarca continue: secondly, all dropsical symptoms disappear, the albuminuria alone remaining; thirdly, the albuminuria also disappears, and perfect health is recovered. Now, it would appear probable, that when the urine becomes albuminous in a pregnant woman, without dropsical or other symptoms, it is caused by pressure on the renal veins by the gravid uterus. In those cases also last referred to, where dropsies with albuminuria totally disappear after delivery, it seems fair to imagine that pressure on the renal and iliac veins combined, is the cause of both; and that the kidneys are free from notable disease. In the other varieties enumerated, the occurrence of Bright's disease explains the phenomena observed. This matter is of much interest, and has not yet received the full investigation it merits.

Where albuminuria attends temporarily the progress of acute gout, this is probably in its character of an acute disease; where albuminous urine is habitually voided by a gouty person, the renal structures have decidedly undergone change.

We have had two or three opportunities of witnessing the power of cantharides, acting endermically, to produce slight albuminous impregnation of the urine. But I do not believe, that where blistering the surface affects the urine thus, the serum of the blood escapes alone; a few blood-discs may be found under the microscope, showing the transition to actual hæmaturia.

I have not known albuminuria distinctly produced by ordinary mercurial action; but in a remarkable case of ptyalism, the urine was albuminous, from first to last, during the woman's stay here. She had leucorrhœal discharge at first, but the albuminuria continued long after this had ceased. Now, as there was no motive for believing the woman to be the subject of serious renal disease, it seems fair to ascribe the condition of the urine to the mercury swallowed. But admitting this,

what is the link between the two things?—Renal congestion—or an altered state of the blood?

It is said that free indulgence in alcohol, cheese, pastry, and various indigestible articles of diet, will render the urine temporarily albuminous. When it does so, idiosyncrasy must be admitted. I have had no opportunity of observing the fact.

In ultimate analysis, it would appear that the conditions to which albuminuria may be referred, in all these diseases, are, altered states of the blood, congestion (mechanical, passive, or active) of the renal tissues, and perhaps an altered condition of the vessels of the kidney, whereby they are rendered incapable of effectually preventing filtration of their contents.

[The author here proceeds to lay down the characters of albumen in the urine, significant of Bright's disease.]

The long continuance of albuminous impregnation is unquestionably a character of value, but it is not conclusive. In the first place, the urine in pyelitis may be constantly albuminous for a lengthened period. In the second place, in the worst cases of Bright's disease, in those rapidly tending to a fatal issue, even the albumen may disappear for a time.

If the quantity of albumen be considerable, and continue so for any length of time, the condition is of importance, provided there be no hæmaturia. On the other hand, it must be remembered that the quantity of albumen may simply suffice to render the specimen examined cloudy, reaching no higher average for weeks together. Probably, however, this state of things can only be *maintained* under the influence of appropriate treatment; but occasional rises and falls occur in the proportion of albumen, inexplicable either by change in the period of the disease, by treatment, by the state of the general health, or of the local dropsies. It would appear, from experiments made in Germany, that filtration of albuminous fluids through membranes is favoured by an acid state of those fluids. May it be, that in certain conditions of Bright's disease the blood becomes less decidedly alkaline than natural?

If the quantity of urine (this being albuminous) voided in the twenty-four hours be equal to, or *à fortiori* above, the average of health, the case is probably not one of Bright's disease, provided the fact has been substantiated for a series of days. In the acute forms of Bright's disease, the daily quantity falls notably below, and in the chronic forms rarely rises to, the average of health. Frequency of micturition is insignificant; true, it may occasionally (certainly not always) be noted in Bright's disease; but the same state of things exists in pyelitis, with albuminuria dependent on renal calculus, or stricture of the urethra.

The colour of the urine in Bright's disease varies more than is commonly admitted. Passing over the acute period (original or of recrudescence), when a blood-tint more or less distinctly exists, the urine of the chronic disease is said to be characterised by a dull brownish smoky hue, with more or less opalescence. True, the urine frequently presents this aspect, and when present it is a valuable character. But

as certainly may the albuminous urine of Bright's disease be sometimes found free from opalescence, and from any unusual tint. I confess, however, that this is rare; and it generally coincides with a manifest improvement in the local and general state of the patient.

The specific gravity of albuminous urine may, under two conditions, be of service in connecting it with Bright's disease. First, during the acute period (whether original, or of recrudescence), while the fluid is distinctly bloody, its specific gravity takes a high range. Again, in the advanced periods, the deficiency of urea frequently reduces the specific gravity to a lower point, from 1012 to 1004, than is maintained for any continuance in any of the other diseases causing albuminuria. Nevertheless, you must remember that the gravity may be low, varying from 1020 to 1014—for example, in pyelitis; and that in old standing cases of Bright's disease it may not fall lower than this.

Albuminous urine in chronic cases of Bright's disease is generally moderately acid, sometimes neutral, and I have known it, in rare instances, temporarily alkaline. The sharp acidity of the secretion in pyelitic albuminuria will help to the distinction of the two cases.

In regard of microscopical characters, there is certainly no one absolutely distinctive. In Bright's disease, crystals of uric acid are not very uncommon. Cylindrical bodies, representing in form the tubules of the kidney, and exhibiting epithelial cells on the inner surface, have been figured as peculiar to Bright's disease. This is an error; these so-called "casts of the tubes" are occasionally excreted in pyelitis. And here observation accords with *à priori* notions; for nothing can be more natural than to suppose that inflammation should tend to spread from the lining of the calices to that of the tubes, and there set up a process of exudation and desquamation. Exudation-corpuscles are rare in the albuminous urine of Bright's disease, constant in that of active pyelitis. A statement is to be found in the works of some distinguished authors, that amorphous lithates are not found in the deposit in the former disease; daily examples of the fallacy of the statement occur to us in these wards.

To resume: if we find the urine of a patient albuminous to a high degree, and constantly so for any length of time, the fluid itself being small in quantity, voided more frequently than natural, of peculiar opaline brownish tint, whey-like smell, very low specific gravity, and of faintly acid or neutral reaction, and giving a deposit which contains "casts of the tubules" and uric-acid crystals, without exudation-corpuscles, we may unreservedly affirm, that such albuminuria depends on Bright's disease. But in proportion as the number of these associated characters diminishes, so does the certainty of the diagnosis through the urine alone fail; and in certain cases, neither very few nor very far between, so many of those characters are absent—for a time, at least—that the determination of the cause of the albuminuria turns upon the local renal state, and the absence or presence of the secondary morbid changes of Bright's disease.

ART. 26.—*Bright's Disease not essentially a Renal Disease, but essentially and primarily a Blood Disease.* By Professor WALSHE.

(*Lancet*, July 14, 1849.)

[Dr. Walshe holds opinions on this disease at variance with those commonly received, as may be seen in the following portion of a clinical lecture, delivered at University College Hospital :]

.... I cannot take leave of the consideration of the state of the kidneys in this case, gentlemen, without urging upon your attention the importance of carefully establishing, on an extended scale, the precise anatomical state of the renal textures of adults cut off by various diseases—adults who, in infancy or early youth, have, or have not, had, as sequelæ of scarlatina, symptoms of an acute attack of Bright's disease ; nor can I avoid, in connexion with this subject, dwelling for a few moments on a very interesting question in the general pathology of Bright's disease—I mean its seat. I have long believed, for my own part, that the views which localize that affection in the substance of the kidney, and regard the anatomical changes in that organ as the essence of the malady, are one-sided and contracted. I recognise, in the natural history of the disease, tolerably sure evidence of primary origin in the blood, and will, as succinctly as possible, lay before you some of the more prominent facts on which this recognition is founded.

1. There is no positive and constant naked-eye peculiarity in the anatomical conditions of the kidney, in *all* cases where there had been discharge of albuminous urine and cellular dropsy during life. So true is this, that the most practised observers would hesitate (and have actually hesitated), from the inspection of *certain* kidneys, to say whether the case had, during life, been attended with the symptoms of simple chronic nephritis or of Bright's disease. Of course this difficulty of distinction is not common, but it exists with quite sufficient frequency to justify the general proposition, as just stated.

2. Neither is there any microscopic character always present, positively and unfailingly distinctive between the kidneys of persons who have suffered from simple chronic nephritis, or from Bright's disease. We have frequently, in this hospital, seen clogging of the tubules with simple exudation (in the stage of "induration-matter") in victims of the latter disease ; while in others, whose urine had been non-albuminous and alkaline, and in whom no secondary diseases existed (simple chronic nephritis), fat existed in some abundance, along with the same "induration matter."

3. There is no positive and direct relationship, in cases of Bright's disease, between the amount of albuminous impregnation of the urine and of renal disorganization.

4. There is no positive and direct relationship between the number and severity of the "secondary diseases" and of renal disorganization.

5. The urine may, in Bright's disease, be occasionally copiously albuminous without coexisting dropsy ; or the patient may be dropsical while his urine is free from albumen.

6. Albuminous impregnation of the urine is caused by other forms

of renal disease proper, besides those met with in Bright's disease, and also by certain morbid states of the blood.

7. Albumen may totally disappear from the urine, *pro tempore*, in the most serious cases of Bright's disease; yet it cannot be supposed that the physical conditions of the kidney, favouring filtration of serum through the vessels, have suddenly and completely changed.

8. The reason why there is greater clogging of the tubules (general, or limited and "granular") in the advanced stages of Bright's disease (with proto-plastic, or fatty matter, or both) is, that longer time has been allowed for the morbid blood-elements to filtrate through the walls of the vessels. These elements, in part stagnating within the tubules, in part exuded amid the inter-tubular tissue, accumulate in the renal texture, instead of all passing away with the urine. These elements, deposited granularly, and by uniform infiltration, are the *effects* of the disease, not its *cause*. But as the alterations of the blood are not equable and uniform in their advancement, there is no direct ratio between the amount of clogging of the tubules, &c. and the severity of the disease, considered in the sum of its general manifestations. So true is this, that (as is clinically well known) the very highest amount of "secondary affections" may exist at the outset (anatomically considered) of the disease of the kidney.

9. From the very outset of Bright's disease, the existence of blood-changes is certain; they are more marked in degree, and earlier in development (as appreciable conditions), than in any recognised chronic blood-disease.

10. Bright's disease has several of the characters of a primary chronic blood-disease. Thus, there is no direct ratio between the anatomical changes and the mass of morbid condition constituting the disease; Bright's disease tends to the production of various secondary and dependent affections; and the character of these secondary affections partakes of that of the primary (that is, primary in the train of organic changes of the solids) renal changes; they, too, are marked by transudations of serum, and deposition of proto-plastic matter and fat.

11. It may be said that, as urea has been found in the blood at the commencement of acute attacks of Bright's disease, there is evidence of organic disease of the kidney *ab initio*. But no; functional inactivity is enough to ensure accumulation of urea in the blood; in cholera there is no textural alteration of the renal substance. The true explanation seems to be, that the state of the blood prevents the kidney from acting properly on the elements it is accustomed to excrete, not that its own functional aptitude is at the outset seriously impaired; in other words, it is probable that, in the commencement, the renal cells are still quite able to separate urea, if healthily-constituted blood were offered to them by the vessels. This view is, doubtless, hypothetical; but it harmonises with the well-known and striking fact, that urea may, and does, not uncommonly, disappear from the blood when the anatomical changes in the kidney are carried to extremes, and the case (though a temporary improvement has occurred) is fast tending to a fatal issue. According to the doctrine which regards the

accumulation of urea in the blood as the consequence solely of the changes in the kidney, how is this to be explained? According to this doctrine, the effect of a certain cause is decreased as the intensity of that cause is increased.

12. With the progress of deposition within the kidney, the excretory functions of the organ become, partly mechanically, partly dynamically, interfered with, and hence the blood becomes *secondarily* diseased also.

13. It may be objected that if Bright's disease be not essentially a renal, but a blood-disease, *ab initio*, it does not seem clear why the kidney should be the organ on which textural changes are earliest and constantly inflicted. The objection is valueless, until it be explained why tubercle selects the bronchial glands at one period of life for its main nidus, the lungs at another; why cancer chiefly infests the mamma and uterus, &c. *As soon as* the predilections of blood-diseases for certain organs (or the attracting quality of certain organs for special diseased circulating elements) are explained in the instances *inter alia* of tubercle and cancer, the attraction of the morbid material, present in the blood in Bright's disease, for the kidney will probably be found simple enough. Meanwhile I would observe, that a fact, which may not be without its application in this matter, was ascertained some years ago by Simon, from the comparative analysis of the blood of the aorta and of the renal veins in a horse. The quantity of albumen in the former to that in the latter was found to be as 425 : 446. This natural tendency to excess of albumen in the blood of the renal veins may, perhaps, be in some way connected with its tendency to escape by the channel of the kidney in Bright's disease. The urine (according to some chemists) naturally contains albumen, but in a proportion so minute, that it is undiscoverable by ordinary tests.

From these facts and arguments it appears to me that the following conclusions may fairly be drawn:

a. That Bright's disease is a blood-disease, *ab initio*, essentially tending to chronicity, though (like cancer and phthisis) sometimes running an acute course.

b. That the existence of that *ab initio* change follows from—1. Direct analysis. 2. The general accordance of the pathology of the disease with that of chronic blood-diseases. 3. The inadequacy of the local renal states to account for the local renal phenomena, still less for the general phenomena. 4. The total want of harmony between the renal changes and the general implication of the system, and between the renal changes and the local functional disorders. 5. The facility with which that want of harmony is explicable on the hypothesis of blood-disease.

c. That the precise nature of the primary blood-change is unknown: at present the main peculiarities ascertained (excess of serum of low specific gravity, excess of fat, excess of urea and deficiency of albumen) are, in all probability, secondary.

d. That the renal textural changes are not the *cause* of the sum of morbid states, included under the name of Bright's disease; and that they do not even furnish a *measure of the intensity* of that disease.

e. That in reality the renal textural changes form at the most the

anatomical character of the disease (and their claim in this respect even is not yet fully made out under all circumstances, *vide* propositions 1 and 2), just as tuberculous deposit in the lung constitutes the anatomical character of phthisis.

f. That the primary blood-changes are the result, probably, of error in the primary and secondary digestion processes. The toxic condition of the blood, whatever it is, is not derived from influences acting from without, but generated within the frame through imperfect organic actions.

g. That, as in all diseases of this class (rheumatism, gout, tubercle, cancer, &c.), there is a mysterious constitutional *predisposition* to those imperfect organic actions; without this, all the exciting and immediate alleged causes of Bright's disease fail in the power to evolve it.

Art. 27.—*Clinical Lecture on Albuminuria.* By Dr. Heaton, Senior Physician to the Leeds Dispensary.

(*Prov. Med. and Surg. Journ.* April 4.)

[The lecturer makes two well-selected cases of this disease the subject of the following remarks:]

Albuminuria may frequently be found to commence with some exposure to cold and wet, which has the effect, when long continued, of repelling the blood from the surface, and causing it to be unduly accumulated or congested in some internal organ; any organ predisposed to a congestive or inflammatory state, whether from an habitual atony of its vessels, or from some actually pre-existing disease, being that most likely to suffer. Various habits and conditions of body are observed to predispose to albuminuria; habitual intemperance, especially spirit-drinking, gives a strong predisposition, deteriorating the quality of the blood, and thus impairing the nutritive function. It is frequently found also in connexion with those diseases of the heart which interfere with the free transmission of the blood through that organ, thus causing congestion of the abdominal organs. Again, in the female, albuminuria has been observed frequently during the state of pregnancy, more especially in those who have been subject to a rapid succession of pregnancies, which frequently has a marked effect in lowering the health, and inducing a thin innutritious condition of the blood, which may lead to those diseases connected with imperfect nutrition, such as scrofulous affections, tubercular disease of the lungs, cirrhosis of the liver, or granular degeneration of the kidneys.

When the disease assumes an acute form, there is usually a good deal of inflammatory fever, and pain in the loins, the kidneys being then inflamed or much congested; and even cases decidedly chronic may present temporary exacerbations of this kind occasionally supervening. But there were no very acute symptoms in this case; and the pregnant condition is unfavorable to very active treatment. A moderate local depletion, therefore, to relieve the hyperæmia of the kidneys, was the only loss of blood that the case seemed to require or admit of. Diuretics were ordered still farther to relieve the kidneys,

by increasing the flow of urine, and at the same time to promote the excretion of the natural constituents of that fluid, which prove so very injurious if suffered to accumulate in the blood. When there are symptoms of much increased vascular action in the kidneys, the more stimulating diuretics are dangerous, though in the chronic form of the disease they may be very beneficial. The great distension of the body with extravasated serum, and especially the tenseness and erythematous appearance of the breasts, required the adoption of some further means for their relief, and for this purpose none are so efficacious as those which promote a copious watery secretion from the extensive surface of the intestinal canal. The use of active purgatives in this disease requires some caution, as there is not unfrequently a tendency to diarrhœa, of an intractable character, which, when once brought about, it may be difficult to arrest. The state of pregnancy, likewise, was another reason for caution in their use in this instance. They proved, however, so harmless upon trial, and were attended with such evident relief and subsidence of the swelling, that the patient requested to be allowed to continue their use. Having tried various medicines for this purpose, I find none more convenient than croton oil, which produces copious evacuations, and with less sickness and discomfort than are caused by elaterium. Some of the neutral salines, as sulphate of potash, are likewise useful for this purpose; these should be given in rather a concentrated solution, which then determines an endosmosis of the watery part of the blood into the intestine from the blood-vessels, which, thus deprived of their natural tension, become actively absorbent of the dropsical effusion which they had before allowed to escape. But if the saline be given much diluted, or, what is in effect the same, if followed by much diluent drink, it then enters the blood, and acts upon the kidneys. Cream of tartar is likewise useful as an hydragogue purgative of mild operation, when given in full doses, and what enters the blood acts favorably upon the kidneys.

By these means the more urgent symptoms (the pain in the loins and the dropsical distension) were relieved; the urine also had acquired a higher specific gravity, which—as it was not diminished in quantity, and contained much less albumen,—showed that the kidneys were now more efficiently excreting the solid constituents of the urine, and that that perversion of their function which allows the escape of the albumen of the blood, was likewise under correction. As there were no febrile symptoms, it now became expedient to attempt the improvement of the general health by a more tonic plan of treatment; for this purpose, and in this disease, no medicines are equal to the preparations of iron, and of these I know none so suitable as the tincture of the muriate, which combines diuretic with its chalybeate properties. In many cases I have found most marked benefit from the use of this remedy, both to the general health of the patients, and in producing a more healthy condition of the urine, which is the best proof of actual improvement. The effect of this disease upon the blood is very marked and characteristic; besides the accumulation in the blood of urea, which should be excreted by the kidneys, and the diminished proportion of albumen in the serum, there is a very great reduction in the amount of red globules which it contains. This is evident in the pale leucophlegmatic

appearance of those who have been long the subjects of albuminuria; and we know that no medicine has an effect equal to chalybeate preparations, in restoring the red globules to blood in which they are deficient.

It is a question whether this patient be now completely cured, or whether the present improvement be only temporary. The total disappearance of albumen from the urine is a very favorable circumstance; we can hardly expect all serous infiltration to leave the feet till after her delivery. When the disease has not been of very long continuance, and the structure of the kidneys is not materially altered, these organs may still remain capable of performing their function efficiently, and with due care on the part of the patient to avoid injurious influences, and to maintain a good state of the general health, a cure may be permanent; but any degree of that change of structure in the kidneys, which is the essential part of the disease, must give a strong predisposition to a recommencement of the morbid action, and a return of all the symptoms. We consider the prognosis of albuminuria occurring in the pregnant female, and not known to have existed previously, as more favorable than under other circumstances. It is an observation of M. Rayer, that albuminuria may occur in pregnant females dependent upon a temporary hyperæmia of the kidney, without permanent change of structure; but we find, likewise, that the albuminuria appearing during pregnancy, may continue afterwards, or reappear, and prove as serious a disease as in other cases. We cannot, therefore, speak at all positively of the permanence of this cure, but at present the result is quite as favorable as we may expect to obtain in a case which may be shown to have extended over several months.

The next case a good deal resembles that we have just been considering, only that the cure was not so complete and satisfactory. It was not, in this instance, accompanied with pregnancy. Most probably the disease had existed for some time before admission, though she had only noticed the symptoms for a fortnight previously. The morbid change in the kidneys often goes on for some time unsuspected, though if the urine were tested it would be found albuminous; and the dropsy is the first symptom which attracts attention. When the urine passes to a highly albuminous condition from the healthy state within a fortnight, and the body becomes anasarcous, we have more acute symptoms than presented themselves in this case There is, in such a case much inflammatory fever, pain in the loins, and the urine is very scanty and high coloured. But such was not the case in this instance; I conclude, therefore, that the disease had been gradually invading for some time. This being so, the prognosis was from the first less favorable, for probably the kidneys had already undergone a considerable degree of disorganization which can never be repaired. The acute form of the disease is attended with more immediate danger to life, but there is much more probability of permanent recovery.

The treatment of this case was very similar to that of the last, and so will not require much discussion. There were less symptoms of any vascular excitement of the kidneys in this than in the former case; there was no pain in the loins, though some tenderness, which is very generally present throughout the disease; no marked symptoms of

febrile action, and the urine, instead of being scanty, high-coloured, and turbid with the lithates, was pale, of average quantity, and opalescent. This opalescent appearance of the urine, I may remark, is very common in chronic albuminuria, the urine not being perfectly transparent, though presenting no visible turbidity, or allowing a precipitate to subside. It is found, on microscopic examination, to be owing to an excessive quantity of the epithelial scales of the secreting tubules of the kidneys, which, in this disease, are thrown off too freely. This being the case, I see that I ventured upon a stimulating diuretic from the first, having premised a moderate local depletion; for, although the urine contained a large proportion of albumen, its specific gravity was below the average standard, showing that its proper constituents were imperfectly excreted. Hydragogue cathartics were likewise employed, as in the former case, to promote the removal of the dropsical effusion, and subsequently the same chalybeate as in the former case was employed, to improve the quality of the blood, and corroborate the general health. The subsequent history of the case shows a relapse, and again a partial recovery, but the albuminous condition of the urine still remaining is evidence that the apparent recovery is fallacious. These chronic cases may extend over several years with occasional amendments and relapses. They may terminate either by a low form of inflammation in some important organ, or by occasioning œdema and coma.

ART. 28.—*On the Treatment of Chronic Inflammation of the Bladder, by Injections of Nitrate of Silver, with cases.* By ROBERT L. M'DONNELL, M.D.

(*British American Journal of Medical Science*, June 1849.)

In a former paper the author drew the attention of surgeons to the great utility of *injections of nitrate of silver into the bladder, in chronic inflammation of that organ;* and, in support of his views, adduced some remarkable instances of their successful employment, which had occurred both in his private and hospital practice. It is with the hope of placing this method of treating a disease, hitherto considered incurable,—that he has laid the following cases before the profession.

Since his first paper was published, the author has cured a great number of persons affected with this disease, and has selected the following cases from amongst them, because in them the cure was *solely effected by the injections*, whereas in some of the others general treatment was likewise employed; and in some the affection of the bladder was complicated with organic change of the prostate gland, with strictures of the urethra, and, in one instance, with urinary fistulæ and strictures—complications requiring special treatment, which some might suppose assisted in relieving the affection of the bladder; although he is quite satisfied the cures of the vesical inflammation were due to the injections alone. He has also omitted some mild cases of the disease, because, as stated in his former paper, they might have been cured by remedies generally known to surgeons, and therefore are not so valuable as evidence in favour of the method by injections. But his principal reason for selecting the following examples is,

that we have in them unquestionable testimony of the utility of the practice he advocates; for in all, general treatment and the usual remedies *had been carefully and perseveringly employed, without success; and in one, the age of the patient and the duration of the disease, were most unfavorable for testing the merits of the treatment, yet in all the cure was complete and permanent.*

[The author then proceeds to relate several cases successfully treated by this method, and sums up his paper with the following directions for injecting the bladder.]

The patient being placed either in the erect position or on a sofa, a gum-elastic catheter, about the size of No. 9 or 10 (Weiss), is introduced, and water at the temperature of 98° Fahr., is injected through this into the bladder, by means of a caoutchouc bag or, what I prefer, a syringe, with a "three-way valve," by which the fluid can be drawn back from the cavity if necessary. After the bladder has been completely cleansed of any fetid urine and mucus which may be contained in it, the solution of the caustic, being heated to the same degree, is to be introduced in a similar manner, and allowed to remain there for about one minute, care being taken, by compressing the urethra, to prevent its being forcibly ejected by the violent straining that is certain to be induced. The quantity of water or solution should never exceed four ounces; for though the bladder in its healthy state is capable of containing nearly a pint and a half of urine, without being over distended, yet as the quantity it is capable of retaining in severe chronic inflammation seldom exceeds a few tablespoonfuls, the bladder accommodates itself to its diminished contents, and gradually becomes smaller, and consequently a large injection would act injuriously in two ways—by over-distending the organ, or by passing up into the ureters. In fact, we find it unnecessary to use a larger quantity of the solution than I have mentioned, for it requires some address to introduce even that amount without resorting to force. The patient is then ordered a warm bath, and should the urine become bloody or mixed with shreddy concretions, he should use frequent fomentations and anodynes. But these symptoms seldom last for more than a few hours, and the patient should always be informed that such consequences are likely to be the immediate effects of the operation.

The strength of the injection has seldom to be increased beyond five grains to the ounce, although in one instance, that of an old gentleman, aged seventy-two, I had to increase the strength *gradually* to ten grains to the ounce before a satisfactory effect was produced. It is, however, always better to commence with a weak solution, which may be made stronger, according to the circumstances of each case, and the judgment of the practitioner.

PART II.—SURGERY.

SECT. I.—SYMPTOMATOLOGY AND DIAGNOSIS OF SURGICAL DISEASES.

Art. 29.—*Case of Foreign Body in the Bronchi.*

By Samuel Solly, f.r.s.

(Communicated to the *Royal Med. and Chirurg. Society.*)

[In the last volume of the Abstract (vol. IX) we recorded two cases, arts. 32 and 38, of foreign bodies lodging in the pharynx and trachea, and entered, in the Report on Surgery, into the general consideration of the subject of *Foreign bodies in the Œsophagus, Larynx, and Trachea*, (vol. IX. p. 303). In connexion with these papers we now subjoin the following case recorded by Mr. Solly.]

In this case a navigator drew into his windpipe the pebble which he had placed under his tongue to relieve thirst while working on the railway. He applied first to Mr. Passmore, of Pullin's Bar, who, after making him stand on his head, and taking other measures to relieve him, proposed the operation of tracheotomy; but the man preferred coming up to London. On his admission into St. Thomas's, under the care of the author, his condition is thus described:—When recumbent, and entirely at rest, he was free from cough and unconscious of the presence of the stone; but severe cough was induced if he moved about much, and he fancied the stone changed its position. He lay either on his back or right side, an attempt to turn on the left side producing great dyspnœa, with cough and impending suffocation; he referred to the position of the right bronchus as that occupied by the stone, and occasionally experienced a sore and pricking sensation at the same spot. On examining the chest with a stethoscope, the author found the respiratory murmur loud, but otherwise natural, on the left side. On the right, there was a loud cooing sound about four inches below the clavicle; below this, and over about three square inches, there was no respiratory murmur audible. These signs, however, varied, and at times the author could distinguish the sound accompanying the ingress of air at every part of the chest. Dr. Cohen found the respiratory murmur absent, one inch beneath the nipple on the right side, whilst percussion elicited over the same part a clear sound. After the patient had been in the hospital a few days, he was bound to a table, inverted, the operator frequently striking him on the chest and back with his hand. The dyspnœa and spasmodic cough forbad the maintenance of this position beyond forty or fifty seconds. This inversion of the body having produced no effect on the position of the stone, it was determined to open to the trachea, which was done, and the man again inverted without dislodging the stone; but severe bronchitis was produced, which was twice subdued by repeated cupping, and the use of mercury. At last, the patient suddenly left the hospital, and

returning to Holloway, died eight days afterwards. Two days after he left the hospital, he was seized with a violent fit of coughing, and was nearly suffocated. He declared at this time that the stone had changed its position. He had three more convulsive fits shortly before his death; and the expectoration was very profuse through the last week of his life.

The post-mortem examination, which was conducted without the author's knowledge, revealed extensive pleuritic inflammation and suppuration in the pleura on the left side, and abscess of the substance of the lung on the right side. The stone was firmly wedged in one of the first divisions of the left bronchus, but there was no ulceration of the mucous membrane around it, indicating that it had been long resident there. It weighs 114 grains; its long axis being three quarters of an inch, and its short axis half an inch. The author remarked that he was prepared to use forceps for the extraction of the stone; but as the introduction of a long steel probe produced such violent spasm, without affording any information as to the position of the foreign body, he did not consider himself justified in employing them. The form would have rendered it next to impracticable to have seized it with forceps, had the attempt been made. There seems no doubt that the fatal event was accelerated by the patient's returning to his accustomed stimulants after quitting the hospital. The author is farther of opinion that the history of the case, and the post-mortem appearances, justify the assumption that the stone was ejected from its original position when the fit of spasmodic coughing came on two days after he left the hospital; and that it immediately afterwards passed into the left bronchus, where it was found after death.

(Reported in *Lancet*, May 5, 1849.)

ART. 30.—*Tube in the Lachrymal Duct for Nine Years—mistaken for Necrosis—Removal—Cure.* By W. W. COOPER, Esq.

(*London Journal of Medicine*, and *Dublin Med. Press*, May 1849.)

A lady, æt. 61, consulted the author in March 1847. She stated that, nine years previously, whilst in France, she was attacked with inflammation of the right lachrymal duct, and an abscess formed, which was opened; after a time the wound healed, but left the passage impervious. The duct was therefore pierced with a trocar, and a gold tube introduced by a French oculist. The operation was attended with considerable suffering from the size of the tube, which required much force to place it in position; irritation followed, but gradually subsided under the use of fomentations. The skin healed over the tube, and for nearly six years it answered well; but at the expiration of that time, the patient became annoyed by deep-seated pain in the region of the duct, and an offensive discharge from the right nostril. After these symptoms had existed six months, an abscess formed and burst externally; the wound did not heal, but constantly gave exit to an abundant fetid discharge, which also flowed from the nostril. An eminent oculist at Paris was consulted, who examined the parts, and arrived at the conclusion that the tube was no longer in the duct, and that the symptoms

arose from necrosis of the bone. He recommended frequent syringing with an infusion of walnut leaves, and introduced a silver style into the duct. The discharge, however, continued, and an unhealthy, unsightly sore formed at the corner of the eye, which after a time caused partial eversion of the lower lid. For three years this continued, rendering her extremely miserable, for the discharge was so offensive that she was quite debarred from society. During this time she consulted two gentlemen of eminence in London, who coincided in opinion with the Parisian oculist, that the tube had escaped from the duct.

On examination, a puckered granulating sore, about the size of a fourpenny piece, marked the situation of the orifice; a fine probe passed with facility into the nose, and in its passage struck against a hard substance which had been considered as denuded bone. From no pain or sensation being excited by the strokes of the probe, Mr. Cooper was inclined to the belief that the substance was metallic, and that the tube was in the duct as asserted by the patient, although he could not, with the utmost care, discover its edge.

The granulations bleeding profusely, and the patient becoming excited, further proceedings were deferred until the following day.

The duct was then cut down upon, and on the wound being dilated, the edge of the tube was clearly seen at the depth of full a quarter of an inch; with some difficulty it was grasped with a pair of strong forceps, but nearly as much force as the author was capable of exerting was required to pull it out, so firmly was it impacted. Considerable hemorrhage followed, but was arrested by cold water and the injection of a solution of alum. The patient was directed to syringe the duct thrice daily with a solution of hypochlorite of soda, and after four days the offensive discharge had entirely ceased. On the fifth day a small style was introduced, and at the expiration of a fortnight the sore had healed; a slight eversion of the lid, with a puckered indentation, only remaining to indicate its situation.

Remarks.—Heister was, I believe, the first who proposed to cure fistula lachrymalis by the introduction of a canula into the nasal duct; his plan was to perforate the os unguis, place the canula in position, and allow the skin to heal over it. This proceeding was unnecessarily severe, but a great improvement upon the barbarous surgery of his predecessors. Upon it Mr. Wathen again improved, by inserting the canula into the duct without injuring the bone; at first, the prospects of success were most flattering, bŭt, after a time, the plan was found open to many objections. The tubes shifted their position in the canal, sometimes rising too high, at other times sinking too low. A modification of the form of the tubes was proposed by M. Pellier, a French oculist, but experience proved them to have equal disadvantages with the originals; consequently the persistent tubes were generally abandoned in this country for the style, which, whilst it permits the passage of the tears by its side, is smaller than the canula, creates less irritation, and can be withdrawn and replaced with facility—a proceeding which ought never to be neglected beyond a week; it is better, indeed, to remove it every fourth day, to syringe the duct with a weak solution of alum, or if there be offensive discharge, with diluted liquor sodæ chlorinatæ—one part to fifteen of water—to wash the style

and replace it. The surgeon should explain how this is to be done, and a little practice will enable any patient to manage it with facility.

On the Continent, the old plan of the canula was extensively used by Dupuytren, and is still adhered to by some foreign oculists. The case above related offers a fair example of the consequences to be expected from its use. For a time all goes on smoothly enough, and the patient is flattered with hopes of a perfect cure; but sooner or later, irritation is set up, and unless the tube be removed, it becomes buried in granulations, is firmly impacted in the canal, and caries of the bones forming its boundaries, with all the attendant miseries, will be the probable result.

It is very important, when consulted by a patient labouring under obstruction of the lachrymal duct, to ascertain the condition of the mucous membrane of the nostril. This, especially in strumous subjects, will often be found thickened, congested, and ulcerated. The obstruction to the passage of the tears may, in such a case, arise either from the closure of the lower orifice from this condition of the Schneiderian membrane, or from the extension of the morbid changes into the duct itself. Under these circumstances, much benefit will be derived from the use of an ointment composed of three parts of the unguentum hydrargyri ammonio-chloridi, to one part of oil of almonds. This should be applied with a camel-hair brush, and well swept over the membrane of the nostril. A lotion of four grains of nitrate of silver to an ounce of distilled water, applied in the same manner, is also frequently of great service. But with such measures, careful attention to the general health should be combined.

On several occasions I have seen much embarrassment caused during the operation for fistula lachrymalis, by the difficulty of finding the orifice of the duct with a probe or style, after the sac has been opened and the knife withdrawn. This will be obviated by making the incision with a narrow-bladed knife, which should be passed into the mouth of the duct; a fine probe should then be slid along the blade into the duct, and the knife withdrawn. The probe will at once guide the style into the duct, and the operation be completed.

On this case the editor of the 'Dublin Medical Press' observes: "This method has already been suggested and practised, we believe by some gentleman in Norwich. Dr. Jacob, as we think, alluded to it in a paper published some years ago in a journal since gone to the pastry-cook, so Mr. Cooper may be excused for overlooking it. We know not whether the method practised by Dr. Jacob for forcing the passage with the style has been described in print or not. He takes a common surgical probe or piece of silver wire, passes it through the fistulous opening into the sac, and hitches the end against the orbital edge of the groove in the nasal process of the maxillary bone, until he turns up the instrument to the perpendicular. He then forces the passage with it, and after it has arrived in the nose, he bends down the part he holds in his hand until it lies on the cheek, after which he cuts it off with a bone forceps, leaving so much of the probe in the fistula, sac, and duct as makes a safe and convenient style, thus avoiding the embarrassment which attends the withdrawal of the one instrument and the substitution of the other."

Art. 31.—*On the Diagnosis of Cataract, Amaurosis, and Glaucoma.* By H. Haynes Walton, f.r.c.s.

(From a Clinical Lecture, *Med. Times,* Aug. 11, 1849.)

This short sketch of complications must be followed by recounting briefly the broad distinctions between cataract and amaurosis, and cataract and glaucoma. If I am to define amaurosis as imperfection or loss of vision depending on lesion of the ocular nervous apparatus, I am not aware of any objective symptoms besides the motions of the pupil and the directions of the eyeballs that can be depended on, and these furnish exceptions.

The paleness or light yellowness observed just behind the pupil, and considered as a symptom, is no such thing, but only the effect produced by the coloration of the lens, of which I spoke in the last lecture, and which would be seen with or without amaurosis. Young amaurotic persons never exhibit this appearance. In rare exceptions, the pupils act as in health when total blindness exists (I shall not open the physiological question that this involves); but the rule is, that their motions are greatly impaired, or quite lost, directly that vision is affected, and irregularity with dilatation is common.

Amaurotic eyes have a tendency to lose their parallelism; they usually diverge, are indefinite in motion, and appear not to be under the control of volition.

In uncomplicated cataract they are parallel, and their motions are regular, and in unison with the general movements of the body.

Now, let us contrast the subjective symptoms of the two. Cataract forms slowly, and vision declines in proportion, and objects are enveloped in a mist. A dull or subdued light is preferred by the patient, because with the expanded or dilated pupil he sees better. In amaurosis, the sight may be gradually lost, but as frequently it departs quickly, or it may be suddenly; and muscæ, flashes, coruscations, pains of the orbits, headache, or other cerebral disturbance accompany the failing or lost vision, and a bright or strong light is generally sought for. The patient may see better one day and worse another, and the extreme degrees may be very great. Luminous bodies appear distorted, or broken up into rays or stars. It can be only in the incipient stages of either of these affections that a mistake is likely to be made, or a doubt raised.

Muscæ volitantes are frequently seen in connexion with cataract. They form, *per se*, no objection to an operation. Not unfrequently, after a cataract has been removed, the patient discovers, for the first time, that he is the subject of them. Whenever the formation of a cataract is accompanied with uneasiness or pain in the eye, or its surrounding parts, suspicions should be entertained of other disease; and it must be borne in mind that it is common for cararact to coexist with amaurosis or glaucoma.

Glaucoma, not uncommon in elderly persons, but I believe never seen in early life, signifies a green state of the pupil, with other changes in the eye. At first it is light green, but becomes deeper as it advances. Hardness of the globe is a common attendant. The following

paragraph from Dr. Mackenzie's work expresses all that I need tell you. Limited and sluggish motion of the pupil, "with other amaurotic symptoms, always attends glaucoma. Ultimately the pupil is dilated, and the retina insensible to light. The loss of sight, however, is generally very gradual, and is sometimes attended, at least for a time, by diminution in the size of the pupil."

There is considerable difference of opinion about the nature of glaucoma. Some speak of it synonymously with acute retinitis, others as chronic arthritic inflammation of the internal tunics. Dr. Mackenzie considers that he has proved the lens to be the original and only seat of the green appearance; his arguments are ingenious, and scientific, and plausible, but decidedly not conclusive. Of this you may be certain, that opacity of the lens, combined with any tinge of green, is always attended with such other changes in the eye as to prohibit operation.

The catoptrical, or candle-test, as it is called, of Sanson, I am not in the habit of employing. I have not found it of any assistance in the very commencement of cataract, when there has been a question of opacity; and in a more advanced stage I do not require it. It is said to be satisfactory in pointing out the difference between cataract and glaucoma. Dr. Mackenzie discusses the subject at large in his treatise, to which I refer you.

Art. 32.—*Case of Stricture, with profuse Discharge from the Urethra, simulating Gonorrhœa.* By Henry Smith, f.r.c.s.

(*Medical Times*, Aug. 4, 1849.)

I was consulted, about three months ago, by a gentleman from Suffolk, under the following circumstances:

He had a profuse discharge, from his urethra, of muco-purulent fluid, exactly like that of gonorrhœa. It troubled him excessively, and he wished to get rid of it. He had had gonorrhœa several times, and about two years ago he was treated for stricture by a surgeon, and, apparently, with success, after more than twelve months' irregular attendance; at the end of which period he married. A discharge, however, occurred now and then, sometimes being better and sometimes worse. He again applied to his surgeon, who told him that he had gonorrhœa, and that he must take copaiba. He explained to the surgeon, that he had married a virtuous woman, and that he had had no connexion with any one else, and that he must be mistaken. This did not change his adviser's opinion, and he prescribed copaiba. The patient would not take it, and the discharge diminished, and went away of itself.

On the least excitement, however, it returned; the firm and, as he thought, erroneous opinion of his medical attendant had offended him, and he was recommended to me.

He related the previous circumstances, and showed me the discharge, which was profuse, and so like to that of gonorrhœa, that I almost involuntarily exclaimed, "I could swear you had a gonorrhœa." At the same time, having the advantage of hearing his former history, I

suspected he might have a stricture remaining. I requested permission to examine the urethra, and, on doing so, I discovered two irritable strictures. I told him that this was the cause of the discharge persisting, and that it was necessary for him to come to London every week, to have the bougie passed. I, at the same time, desired him to refrain as much as possible from sexual connexion, and from all other species of excitement.

I need not enumerate the particulars of this case, which was troublesome to treat,—for the urethra was so excessively irritable, that, about three weeks after this, I could only introduce, with some trouble, a No. 4 bougie. In a short time, however, a good-sized instrument could be introduced, the discharge diminished, and, at the end of two months, I passed No. 12 bougie; all discharge had ceased. He had latterly used a weak solution of acetate of zinc, in order to diminish the irritability of the urethra, and hasten the cure.

I advised him to return to me in another month, in order that I might ascertain if the cure was satisfactory. He visited me last week. The urethra admitted No. 12 bougie, and the discharge had never returned.

The points of interest in this case are obvious; it particularly indicates how careful the surgeon should be in giving a decided opinion respecting the nature of a discharge, when the patient is a married man, and denies having placed himself in a position to get infection. It is true, that the surgeon is frequently wilfully imposed upon by his patient; at the same time, an educated and sensible man, if he have any confidence in his medical attendant, will generally tell the truth.

I am by no means surprised that the discharge in this instance was taken for and treated as gonorrhœa, for the similarity was so great that it was almost impossible to give any other opinion; for although it frequently happens that a thin, gleety discharge is produced by a stricture, one of a purulent, or muco-purulent character, exactly like that of a common clap, is rare as an effect of this altered condition of the urethral canal. This case strikingly shows the necessity of examining the urethra with an instrument, if a discharge persists for a length of time, and resists ordinary remedies; for in many such cases the discharge is kept up by the stricture, and unless this be overcome, no permanent cure can be expected to result from remedies by the mouth or by injections; but as soon as the obstruction is fully overcome, the running, whether it comes from the urethra or neck of the bladder, will readily give way. As an instance of the dependence of the discharge upon a stricture, and its rapid departure as soon as this has been treated, M. Leroy d'Etiolles mentions, in his work on stricture, a case of a gentleman suffering under two bad strictures. Here there was such a profuse discharge of thick, mucus-like, false membrane, that the unfortunate patient almost lived upon a perforated chair. This lasted for a year, when the stricture was discovered, and treated properly; and in eight days the discharge ceased, and since ten years has not returned.

Art. 33.—*Neuralgia of the Glans Penis.* By Dr. Spengler.—Dr. Spengler relates an interesting case of this rare affection. It

occurred in the person of a healthy man, 40 years of age, who, having been cured of gonorrhœa four weeks, had connexion with his wife ten weeks after the first infection. This was attended with the most intense suffering in the glans penis, which continued for two or three days, and always returned whenever he repeated the act. At last, abstinence from connexion procured no immunity; for, if he had a pollution, or even an erection, though this was not painful while it continued, the like intense pain came on afterwards. In the intervals he was quite free from pain or tenderness; no marks of inflammation were present; and an instrument found the canal quite free. The case being considered a pure neuralgia, every variety of treatment was resorted to in vain for weeks and months, until the man became hypochondriacal, and contemplated amputation or suicide. At last, Dr. Spengler cauterized the canal, with the effect of producing a bloody, puriform discharge, and some relief; and by repeating this four times, at long intervals, he became quite cured. The author quotes a somewhat similar case from the third vol. of the 'Mem. of the London Med. Soc.' (1797), in which a man, after an impure connexion, contracted an excessive pain in the glans, to which no means that were tried afforded any relief, and which, in fact, was only cured several months later by the acquisition of a new gonorrhœa.

Casper's Wochenschrift, No. 46, 1848; *Brit. and For. Med.-Chirurg. Rev.*, July 1849.

ART. 34.—*Large Hydrocele of the Tunica Vaginalis radically cured—Spermatozoa found in the Fluid—Observations.* By R. L. MACDONNELL, M.D.

(A pamphlet reprinted from the *British American Journal of Medicine*, Montreal, 1849.)

A man, æt. 45, was admitted under my care into the Montreal General Hospital, March 6, 1846, labouring under chronic bronchitis, with emphysema of both lungs. He was treated for the pulmonary disease, for some days, before it was discovered that he had a large tumour which he had taken great pains to conceal, occupying the left side of the scrotum, and extending from the inguinal ring almost to the knee. This tumour was of an oval shape, its upper and lower portions being of the same size, whilst in its middle it was dilated; it could be traced to the ring, but it was not possible to force it through that opening; its surface was smooth, and the scrotum was stretched tightly over it; it was not painful in any part, and yielded a dull sound on percussion. On coughing, the tumour was evidently *moved*, but the peculiar impulse of hernia was not perceived. *The testicle was found situated at the very lowest point of the tumour;* it was not enlarged, nor adherent to the neighbouring parts, and pressure upon it caused the usual sensation. The epididymis and cord could be traced at the back of the tumour for a short distance, but at the ring they could not be distinguished.

The patient could not give an accurate account of the origin or mode of growth of this tumour, except that he noticed it on the side of the scrotum shortly after he was attacked with the bronchitis seven years ago, and that since then it had gradually increased, but had

never caused any uneasiness, except a dragging sensation in the loins from its great weight. It was evident that the tumour was either a hernia or a hydrocele; its shape, *the position of the testicle*, its having first appeared after severe coughing, countenanced the idea of a hernia; whilst the want of impulse, and its smooth and even surface, notwithstanding its shape, were characteristic of hydrocele. With either disease we might have complete dullness of sound on percussion; for a hernia on the *left* side, even of equal size, might be composed almost entirely of omentum, but the transparency of the tumour, as proved by the transmission of light, clearly showed it to be hydrocele.

March 19.—The fluid, amounting to *forty* ounces (accurately measured) was drawn off, and an injection, composed of two parts of tincture of iodine and three of water, was introduced. In a few days the tumour had attained nearly half its original size, but there was no evidence of lymph being effused; and at the end of three weeks, there being no attempt at cure, the fluid was again drawn off, and a method of treatment adopted, which was recommended by Dr. Adams, of the London Hospital, in vol. ii of the 'Lancet,' for 1843.

A camel-hair brush, dipped in undiluted tincture of iodine, was passed through the canula, and freely applied to all parts of the serous membrane within its reach. The next day, the tunica vaginalis was partially filled with a solid mass of lymph, about the size of a large orange. This gradually became absorbed, and in less than three weeks he was discharged perfectly cured.

In February, 1849, I examined the parts, and they were found in a perfectly healthy condition.

The foregoing case is not devoid of interest to the practical surgeon, on the following grounds:

1. The situation of the testicle is quite unusual. Authors have varied in their statements as to the position which this gland occupies in hydrocele. According to some, it is more frequently met at the posterior part, a little above the centre of the tumour; others, again, assert that it is usually found *below* the centre, and some have stated that we find it occasionally in front of the tumour; but as far as I am aware, no one has described its occasional appearance *at the very lowest part of the tumour*. On the contrary, the best practical writers agree in considering this situation of the testicle as a most valuable diagnostic sign between hydrocele and hernia, and it is not unlikely that a careless or superficial examination of the above case would have led to this error—its history and the appearance of the tumour being more calculated to mislead the surgeon, than elucidate the nature of the disease.

2. The failure of the tincture of iodine injection is extremely unusual. In a note to Chelius's 'Surgery,' by South, it is stated that out of "1148 cases treated by iodine injections, only *three* cases failed."* In instances like the above, I would strongly recommend the iodine to be used in the same manner as employed by me, for it does

* There can be but little doubt that this success is greatly exaggerated, for Dr. Bellingham, of Dublin, has recorded the failure of iodine injections in some of his cases, and feels disposed henceforth to adopt Mr. Adam's method of applying that remedy.—See *Dublin Medical Press.*

not give more pain than the injection, and is not so likely to excite excessive inflammation as the introduction of a quantity of pure tincture of iodine, a method of treatment advocated by some surgeons: and it is certainly a much less painful plan than that lately recommended by Professor Porter, whose operations I have had opportunities of witnessing.

3. A short time ago, the late Mr. Liston showed that the fluid of hydrocele frequently contained spermatozoa, and he drew from this circumstance the conclusion, that in such cases a radical cure by the obliteration of the sac is not to be expected; for, instead of the latter being composed of the tunica vaginalis (a serous membrane), it is formed of the mucous lining of one of the seminal ducts—a dilatation of which has taken place, in a manner similar to that observed in the formation of the tumour of ranula. When this discovery was first announced, a good deal of importance was attached to it by the illustrious author himself, and by writers on systematic surgery,* yet in the case under consideration, a most complete refutation of these views was furnished; for though the fluid contained an immense quantity of spermatozoa, as proved by careful microscopic examination, the cure was accomplished by adhesive inflammation of the walls of the sac: the result of treatment was also strongly opposed to an opinion recently advocated, viz. that it is not by the effusion of lymph, and adhesion of the walls of the sac, that the cure of hydrocele is effected, but by a restoration of the functions of the absorbents of the part. That a cure is frequently accomplished without obliteration of the sac, is no doubt true; but, on the other hand, it is equally certain, that it is by adhesion that the radical cure takes place in a great number of cases, for we know that it is by producing this condition that the success of various plans of treatment of hydrocele is established.

In reference to the presence of spermatozoa, Mr. Liston says—"This subject deserves further investigation to discover—1st. If the limpid fluid, drawn from cysts of the scrotum and inguinal region, uniformly, or often contains spermatozoa. 2d. What connexion subsists betwixt the seminiferous tubes and their cysts? 3d. Whether or not, dilatation of these parts of the epididymis or vas deferens, by obstruction or otherwise may not, in some instances, give rise to these collections? If so, this being a pouch lined by mucous membrane, we should have an easy solution of the difficulty regarding a radical cure not following injection as in the serous cyst. The microscopic examination of the lining membrane of a recent cyst would easily settle the nature of the secretory surface."

In the same volume of the 'Transactions,' we find a paper on the 'Presence of Spermatozoa in the Fluid of Hydrocele,' by Mr. Lloyd, of St. Bartholomew's Hospital. This gentleman's observations go to prove that we do not find spermatozoa in the clear limpid fluid *devoid*

* "It is still matter of dispute whether these had escaped from an accidental wound or giving way of the tubular structure, either of the testicle or of the epididymis; or whether the cyst, from which they were derived, had been formed by dilatation of the tubular structure—as takes place in lacteal tumours of the breast, and in ranula. If the latter opinion prove true, as is inclined to by Mr. Liston, little benefit need be expected to result from injection in such cases."—Miller's *Practice of Surgery*.

of albumen, as stated by Mr. Liston, and consequently their presence is not exclusively confined to hydrocele of the cord; for in one of his cases, "the situation of the fluid was such that there was no reason to doubt the case being hydrocele of the tunica vaginalis." In his second case, he merely mentions that he found spermatozoa in the fluid of a hydrocele, which he had previously tapped fifteen or sixteen times, but no mention is made of its precise nature; but in the third case, in which "the situation of the fluid appeared to be very much like that of common hydrocele of the tunica vaginalis," spermatozoa were found in great numbers, although the fluid "displayed very much the appearance described by Mr. Liston, as exhibited by the fluid of the encysted hydrocele in which he had discovered spermatozoa, but in one respect it differed from that, as it contained a considerable quantity of albumen," the product of secretion from a serous membrane.

Mr. Dalrymple, in the twenty-seventh volume of the same work, mentions that both he and Mr. Liston had lately found these animalculi in the fluid of common hydrocele, and accounts for their presence in such cases, by supposing that the testicle or cord had been punctured during the operation, and thus an exit afforded for their escape; and at a subsequent meeting of the Society, Mr. Paget stated, "that the most probable explanation of these cases, therefore, seems to be, that certain cysts, seated near the organ which naturally secretes the materials for semen, may possess a power of secreting a similar fluid; and this explanation is in some measure supported by the analogy of those cysts which are found in the ovaries, and more rarely in other parts of the body, especially beneath hairy parts of the skin, and in which the ordinary products of the skin, such as epidermis, sebaceous matter, hair, &c., are formed on the genuine cutaneous tissue of their internal surface."*

It appears to me that neither of the above explanations is satisfactory. It is true that by a careless operator the testicle or cord might be punctured in a small hydrocele, but in one so large as to contain forty ounces of fluid, and in which the testicle and cord were removed to a great distance from the point of entrance of the trocar, the escape of spermatozoa cannot be accounted for on such grounds. And Mr. Paget's solution of the difficulty seems equally untenable; for without resting our objection to it on the fact that cysts in the neighbourhood of other glands, whose secretions are purely (or nearly so) excrementitious, as the kidney and liver, are not found to contain the most essential elements of these secretions, and that the fluid of cysts developed in close contact with the testicle and seminal ducts is found destitute of seminal animalcules, as proved by the recent observations of Gosselin,† it is impossible to believe that a diseased serous membrane should possess the property of secreting a fluid so elaborate as the semen, and one which is so clearly endowed with vitality.

It seems to me to be more consistent with the facts of the different cases that have been placed on record, and with the particulars of that just detailed, to suppose, that in the first instance, the disease is merely

* Medico-Chirurgical Transactions, vol. xxvii, p. 401.

† Vide Archives Générales, tom. xvi; and British and Foreign Medico-Chirurgical Review, No. iv, p. 533.

a simple dilatation of one of the ducts, the result of contraction or obliteration of its canals from local inflammation, caused by some injury to the part: that after some time, this dilatation gives way and pours its contents into the cavity of the tunica vaginalis—in which they accumulate in some instances without interfering with the functions of the membrane; but in other instances, the serous membrane takes on diseased action, and its secretion becomes mixed with that originally poured out from, and still secreted by, the ruptured cyst. In this way we can understand how the fluid may, in one case, present a limpid appearance, devoid of albumen; and in the other exhibit a copious admixture of albumen, and a variety of colours; and in both, we may find, on microscopic examination, a quantity more or less abundant of spermatozoa, in some cases alive, in others dead and partially disorganized.

The practical deduction to be drawn from the above case, however, is, that the detection of spermatozoa should not deter us from attempting the radical cure, which, if we should not accomplish by one method, we may succeed in effecting by another.

SECT. II.—NATURE AND CAUSES OF SURGICAL DISEASES.

Art. 35.—*On Traumatic Cataract.* By M. Tavignot.

(*Gazette des Hôpitaux,* Nos. 14, 26; *Brit. and For. Med.-Chirurg. Rev.,* July 1849.)

To what extent does a cataract produced by a traumatic cause comport itself differently from one occurring spontaneously? In the first place, the spontaneous one is oftenest lenticular, the traumatic one capsular or capsulo-lenticular. Traumatic cataracts are almost always more or less soft, while a considerable proportion of the spontaneous ones are hard or hardish. Moreover, in spontaneous cataract there is not usually any accompanying inflammation of the eye or its appendages, which is necessarily present in the traumatic form. Such inflammation may give rise to adhesions between the iris and the anterior crystalloid, or to a painful condition of the ciliary nerves, which is always more or less reflected on to the retina, producing in the course of time either an enfeebled or amaurotic state of it. Sufficient attention has not been paid to the effect of the inflammation on the cataract itself. As long as inflammation continues, the opacity either increases or remains stationary, inflammation and absorption being two incompatible phenomena. Traumatic cataract is usually found but in one eye, while in spontaneous both eyes are generally successively or simultaneously affected. Although it is contrary to M. Tavignot's experience, that a traumatic cataract in the one eye can give rise to a spontaneous one in the other, yet he is far from denying the reciprocal influence of the two eyes, though not demonstrated to that extent. Of its existence, however, we have a proof in

the reflection of the inflammatory action occurring in traumatic cataract to the opposite eye, giving rise to sympathetic iritis; and, as M. Petit observes, even cataract may be produced in the sound eye, not, however, because such exists in the injured one, but from the amount of sympathetic inflammation set up in the former. A last point of difference is, that while the spontaneous cataract, in process of formation, is always, though in a variable time, tending to become complete, the traumatic one, produced and maintained by inflammation, has no tendency when that inflammation subsides to make further progress. This is especially the case with regard to the anterior capsule, which may remain for the rest of life partially opaque, partially transparent.

The traumatic lesion may operate either by producing mere contusion, or by opening the capsule to a greater or less extent. The most constant result of a *contusion* of the eyeball is an effusion of blood into the chambers of the eye, which at first prevents our ascertaining the exact amount of injury. But in giving a prognosis concerning the visible lesions, we must never forget that the globe has been subjected to a true concussion, the result of which may be a paralysed state of the retina, with or without a dilated condition of the pupil. The various other structures of the eye may also be more or less dangerously injured, and the lens becomes opaque, as a consequence of its relations with the neighbouring parts now acutely inflamed. The primary traumatic cataract may in some cases be a very simple one, all the inflammatory disorders being limited to the crystalline apparatus, and inducing very little general reaction; but the consecutive traumatic cataract is always accompanied by numerous disordered conditions of the interior of the eye, it being itself one of the complications of these different morbid elements.

Traumatic cataract from solution of continuity in the capsule may be best practically considered under three different heads:

1st. There may be a mere prick or slight wound of the anterior capsule. It is easily repaired; but a more or less well-defined opaline opacity remains, being sometimes quite circumscribed, and at others gradually diffused over the capsule, rendering it unfit for vision. In the case of this diffused opacity we seldom fail to observe, during the first three days, that the lens becomes in some degree displaced forwards, so as even to push the iris forwards into the anterior chamber. The pressure renders the iris convex, more or less dilated, and almost immoveable. In fact, the crystalline has not moved; but under the influence of the inflammation of the crystalloid, an intra-capsular dropsy, projecting the anterior capsule forwards, has occurred. At this period, so great is the opacity, that vision is abolished; but yet has the lens thus far preserved its transparency, and it only loses it by prolonged contact with the newly-formed fluid.

2d. The capsule has become opened to an appreciable extent, and irregularly, one of the lips of the wound projecting forwards being free, or adherent to the pupillary margin, which is itself either intact or divided. When a wound of the capsule remains thus gaping, without tendency to cicatrize, the torn membrane becomes rapidly opaque, its lips curl upon themselves, and either remain free and floating, or contract adhesions with the surrounding parts; the result

in all cases being rather to enlarge than diminish the size of the aperture. Does the crystalline, thus placed in these entirely new conditions, and in contact with the aqueous humour, escape destruction? In some cases, in the author's opinion, it preserves its normal vitality after the destruction or loss of its capsule. Various surgeons have observed it retaining its transparency after being deprived of its capsule, whether continuing in its normal position or thrown into the anterior chamber. As long as it retains its transparency it will not disappear by absorption; but once become opaque, it softens, and is absorbed in a variable period. In the majority of cases, an exposed lens sooner or later becomes opaque, takes on a milky-white appearance, then softens, and disappears. Its resorption may be effected in two modes. It may remain *in situ*, inclosed in the wounded capsule, and then the absorption takes place very slowly; or the opaque body becomes divided into fragments, which successively separate, and fall through the aperture of the capsule into the anterior chamber, and are rapidly absorbed. The capsule, however, remains, and may be an obstacle to vision, though not an absolute one, owing to the aperture in it made by the wound. Moreover, it is not uncommon to find this accidental opening gradually enlarge, so as to acquire the diameter of the pupil itself—a complete cure being thus effected.

3d. The capsule has been largely opened, and the lens has passed more or less forwards, towards or into the anterior chamber. This amount of injury is in general effected by contusing bodies, and the lens is not here, as in the last case, displaced because its capsule is torn; but by reason of the violence of the injury, it tears the capsule itself. Sometimes the aperture is insufficient, and the lens, as it were, remains strangulated. The lens may be luxated either forwards or backwards; and in the former case it is occasionally retained by a too narrow pupil (which, however, it usually passes easily), and then may give rise to a dangerous iritis. Arrived in the anterior chamber, it sometimes gives rise to very acute inflammation, and at others to a mere slight reaction. In the first case it rapidly becomes opaque, and in the other retains its transparency.

In the *progress* of a traumatic cataract, we should distinguish between the period of development and that of resolution. The first is of short duration, opacity soon occurring; but the latter is generally delayed by the persisting inflammatory action, which must first be dispersed; and in several cases, no spontaneous cure occurring, the cataract continues indefinitely.

The *prognosis* in this cataract is unfavorable, as compared with that of the spontaneous, and this in proportion to the persistence of the inflammation. Mackenzie is the only author who has indicated the pathological circumstances which render the spontaneous cure of these cataracts possible. This depends upon whether the capsule is lacerated or not. If it continues perviously open, we may leave the case to Nature, favouring absorption by appropriate means, and removing complications. If the capsule is intact, or the wound has united, we must, by the removal of present inflammation, prepare the patient for future operation.

Art. 36.—*A Case of Traumatic Lesion of the Globe of the Eye.* By Dr. Rivaud Landreau.

(*Gazette Médicale de Lyon*, Feb. 14, 1849; *London Journal of Medicine*, June 1849.)

[In connexion with M. Tavignot's interesting observations on traumatic cataract we subjoin the following well-narrated case of traumatic lesion of the globe of the eye, which illustrates well the nature of such accidents.]

On the 14th of August, 1847, Madame Peyronnier, a portress, in endeavouring to separate two men who were fighting, received from one of them a blow with the fist in the left eye. The immediate consequence was abolition of vision, and the production of a swelling at the internal angle of the eye; this was followed by ecchymosis of the membranes of the globe and of the palpebral tissues. Severe pain was at the same time felt in the injured organ. Medical assistance having been immediately procured, leeches were applied around the orbit, and cold lotions to the eye, and an opiate mixture was ordered. Some days after, a purgative was administered, and a blister applied behind the right ear. These means having produced no relief, the patient consulted M. Landreau on the 21st of the month. On examination, he found, at the internal angle of the eye, close to the junction of the cornea with the sclerotica, and very near the centre of the palpebral opening, an ovoid tumour of the size of a round pea, with a reddish base, and a slightly flattened summit, presenting a well-marked yellowish tint. Entirely surrounding the base of the tumour was a large violet-coloured ecchymosis, embracing the whole of the larger angle. In the anterior chamber, at its inner and lower part, were some drops of florid blood. The *tomentum* covering the anterior surface of the iris was dull and grayish; and, towards the lower part, and a little internal to this membrane, there was a partial laceration of the iris of about the size of a millimetre (about 1-25 of an inch), having the form of a reversed V. The pupil was dilated to about double its usual dimensions, black, and perfectly immoveable. Vision was destroyed, from amaurosis. The transparent cornea was healthy, and the deeper humours of the eye appeared to be uninjured. The sclerotic and conjunctiva, at the smaller angle, showed no vascular injection; the eyelids had the yellowish tint which usually follows bruises. The patient complained of violent pains in the injured organ, and in the whole of the corresponding side of the head. The tumour before described felt hard and resisting, but gave a sensation of slight fluctuation at the summit, which, with its yellowish tint, indicated the presence of pus. M. Landreau, however, hesitated to open it, being uncertain as to its nature; and, on attentively examining the globe of the eye, he thought he perceived the absence of the crystalline lens, from an unusual depth of the posterior chamber, together with an oscillatory movement of the iris. Hence he imagined, that the blow on the eye might have produced rupture of some of the fibres of the sclerotica, and thereby occasioned an aperture sufficiently large to allow of the escape of the crystalline lens. It was probably, then, this

latter body which produced the tumour under the layer of the conjunctiva. Acting on this hypothesis, he made a small opening over the tumour with a cataract knife. A drop of pus escaped, and he drew out at the end of his instrument a body which he recognised as the crystalline lens, in an entire state. The tumour immediately disappeared, and there only remained some puffiness of the conjunctiva. The eye was ordered to be kept wet with cold lotions, and a purgative to be taken the next day. The patient was completely free from pain at the end of forty-eight hours, and there was little or no consecutive inflammation. The ecchymosis followed the usual course, and in about eight days all traces of it, or of inflammation, had disappeared.

The permanent effects of the injury have been perfect immobility of the pupil, and mydriasis, both resulting from the injury of the iris, which has resisted all means tried to remedy it. The laceration still exists, but is somewhat smaller. The retina has, under the influence of stimulant remedies, so far recovered its power as to enable the patient to see with the aid of cataract glasses.

M. Landreau explains the phenomena of this case by supposing that the blow on the eye was perpendicular, and in a direction from the temple towards the nose. Its immediate effect was the violent compression of the globe, and the crushing of the humours from without inwards. The sclerotic at the inner angle was forcibly compressed against the bony floor of the orbit, and its fibres were thereby distended and torn. Then the crystalline lens, violently detached from its suspensory ligaments, was forced through the laceration in the sclerotica; and, by the motion of the return of the humours from their state of compression, was lodged under the conjunctival membrane. The violence of the blow also explains, in a very natural manner, the rupture of the ciliary attachments of the lower part of the iris, and the partial laceration of that membrane. The effusion of blood in the anterior chamber no doubt arose from the rupture of some of the vessels of the iris, when it was lacerated. It is also evident that the instantaneous paralysis of the retina, and the mydriasis, were effects of the compression and of the blow. There are two remarkable circumstances in this case: *first*, the absence of acute ophthalmitis, either external or internal; and *secondly*, the complete restoration of the function of the retina after such a sudden and complete amaurosis.

Art. 37.—*On Abscess of the Iliac Fossa.* By Dr. De Saussure.

(*Charleston Med. Journal*, No. vi, 1848, and *Monthly Journal*, July 1849.)

Dr. De Saussure (one of the editors of the Charleston Medical Journal), has contributed a memoir on this subject. His remarks do not include the cases in which they occur in the puerperal state, although we believe the symptoms in both cases to be almost identical, and that the only distinction that can be drawn, is that in puerperal females the disease may occasionally originate in the broad ligaments. In speaking of the *causes* of these abscesses, he quotes the opinion of

Velpeau,* Grisolle,† Dupuytren, Burne,‡ Puchelt, and Copland,§ and expresses his own belief that their origin is often involved in obscurity.

The *progress* of iliac abscess depends much upon its cause and its position. If it arise from ulceration and perforation of the cæcum or its appendix, the pus may either be effused into the general cavity of the peritoneum, or else, adhesion having previously formed, the abscess may become circumscribed, and the fluid make its way to the exterior, or the ulceration may take its course into the cellular tissue, connecting the cæcum with the iliac muscle, constituting one of the forms of iliac abscess especially noticed by Velpeau.

The *symptoms* vary with the origin of the affection. If it depend upon inflammation or perforation of the cæcum, the appearance of a tumour in the iliac region will be preceded by colic and diarrhœa, or by constipation and vomiting. The pain, though diffuse, is most severe in the iliac region, but no actual tumour can be detected, although this region is more elevated than the opposite one. When, on the contrary, the abscess is unconnected with inflammation or ulceration of the cæcum, the appearance of the tumour precedes for some days, or even weeks, the occurrence of the pain, which comes on by degrees, consisting, at first, of a feeling of weight and tension in the iliac region, accompanied by a sense of weight and numbness in the corresponding leg. If the patient be now examined, the presence of a tumour, deep-seated in the iliac region, can be determined; the tumour is generally hard and smooth, the abdominal walls being freely moveable above it. The pain now increases in severity, and radiates towards the umbilicus and pubis, and down the thigh; extension of the latter is painful, and it is usually kept in a semiflexed position. The tumour now increases rapidly; constipation is most commonly present, although diarrhœa sometimes occurs; the system begins to sympathise with the local disorder, and febrile symptoms appear.

The author gives a case, illustrating very well the symptoms and progress of this form of iliac abscess, the abscess commencing in the cellular tissue filling the iliac fossa, and the pus being ultimately evacuated by an opening midway between Poupart's ligament and the anterior superior spine of the ilium. In cases of this sort, if seen at an early stage, the fact of the tumour in the iliac fossa, over which the abdominal walls can be freely moved, at once establishes the true nature of the affection; but when the inflammation and swelling have extended to the abdominal walls, it becomes doubtful whether the disease is simple abscess of the iliac fossa, or whether the suppuration is the result of caries and necrosis of the bodies of the lumbar vertebræ. The apparent shortening of the limb, and its semiflexed position in walking, may also give rise to suspicion of disease in the head of the femur or the acetabulum. These doubts are often only solved by the progress of the case.

Grisolle has stated, that it is scarcely possible to mistake iliac for lumbar abscess, if we examine into the patient's previous history. The

* Leçons orales de Clinique Chirurgicale, vol. iii.

† Phlegmon des Fosses Iliaques; in Archiv. Gén. 3d Series, vol. iv.

‡ Medico-Chir. Trans., vol. xx, p. 200.

§ Dictionary of Practical Medicine, art. Cæcum.

first symptoms, he observes, of psoas abscess are weakness of the loins, some difficulty in walking, and inability to extend the leg; the pain is referred, not to the groin, but to the back; the disease approaches insidiously, without fever, and swelling of the iliac region only takes place late in the affection, after the other symptoms have been developed for some time; whereas, in iliac abscess, the first symptoms are referred to the groin, and a tumour is perceptible there long before the pain in that region, and the difficulty in walking, become marked.

The author observes, that the diagnosis is not so easy as Grisolle maintains. Velpeau confesses that in one case he was deceived, and actually mistook an idiopathic iliac abscess for a psoas abscess; and the author relates a case of psoas abscess, in which the symptoms were strikingly similar to those of his case of iliac abscess to which we have alluded.

In both there was a swelling to the left iliac region, attended by severe pain, but unattended by pain or weakness of the loins; in both there was complete inability to extend the limb, progression was painful, the leg flexed, the foot turned inwards, and the points of the toes closely touched the ground; in neither did a careful examination yield any evidence of disease of the vertebræ or of the hip-joint. The only symptom existing in the second case, and not in the first, was œdema of the loins and left leg and thigh. But, excepting the œdema of the loins, this is of no diagnostic value, as it would also occur in iliac abscess, seated between the iliac fascia and the iliac muscle, as the presence of pus in that position would impede the return of the venous blood. Although œdema of the loins never can arise from iliac abscess, it is not of constant occurrence in psoas abscess, only making its appearance when the pus finds its way into the large muscles of the loins. The author concludes his remarks on the diagnosis between iliac and psoas abscesses by observing, that it must depend upon a careful examination into the patient's history and past personal condition, followed by a minute study of the order in which the different symptoms attending his attack have developed themselves, the first period at which the pain and swelling made its appearance in the groin, and the nature and degree of this swelling, both at its first appearance and during its subsequent progress.

A case in which a fæcal tumour was confounded with iliac abscess, is given in the Archiv. Gén., vol. xx, p. 501; and cases are recorded by Churchill and Bricheteau, in which pelvic abscesses have even been mistaken for sciatica.

From abscesses having their seat in the abdominal walls, they may be distinguished by the fact, that in the early stages of iliac abscess, the abdominal walls are freely moveable over the tumour, whereas, in the former, the tumour moves with the abdominal walls. From circumscribed, acute, or chronic peritonitis, iliac abscess may be distinguished by the character of the pain, which in the former is more sharp and lancinating, and is generally preceded by rigor, and attended by nausea, vomiting, hiccough, and in time, fever. From diseased ovary it may be distinguished by the ovary being moveable, and by a rectal examination. It is difficult, if not impossible, to distinguish an abscess

between the peritoneum and the iliac fascia (sub-peritoneal abscess), and inflammation of the psoas muscle.

With regard to the prognosis, Velpeau regards it as favorable; Grisolle, on the other hand, says, that of seventy-three cases twenty were fatal and eleven serious. The author correctly observes, that much depends on the course the abscess takes.

Art. 38.—*Hernia reduced en masse.* By James Luke, Esq., Surgeon to the London Hospital.

(*Medical Gazette*, Feb. 16, 1849.)

Cases similar in their nature to the subjoined are always of so serious a character, and are so liable to mislead the unguarded practitioner in their management, by the obscurities with which they are surrounded, that, perhaps, an apology will scarcely be needed for my again drawing attention to the subject. It is generally believed that the occurrence of such cases in ordinary routine of practice is unfrequent, and we are led to this belief by the rarity of their relation in our periodic publications. The belief appears to be well founded and just, as far as relates to the adoption of operations for their treatment, for we might reasonably conclude that a large proportion, if not all, of such operations, when performed, would find place in some such record. Few such cases, however, have been recorded, and we are led thereby to the inference that but few operations have been performed.

The arrival at such conclusions but slightly affects the question of the frequency of cases in which there may have been a necessity for the performance of such operation, which cases I apprehend have been more frequent than is generally supposed. My reason for this belief is supported by the results of my personal experience, which embraces an observation of seven cases, inclusive of that related below. Five of these have been related in the twenty-sixth vol. of the 'Transactions of the Medico-Chirurgical Society,' and one, some time since, in your 'Gazette.' It appears to me highly improbable that a number so large as seven should have fallen under the observation of one surgeon, if such cases were of extreme rarity, or when (judging from the negative arguments of the journals) other surgeons were almost wholly exempt from them. I think it is more reasonable to suppose that cases of hernia reduced *en masse*, have occurred under the observation of other surgeons in the same proportion to other cases of strangulated hernia as they have occurred under mine; but that they have been so overshadowed by difficulties and doubts, that the time for relief has been allowed to pass over without the necessary means being employed. If such be the real state of the question, it is important that the doubts which surround such cases should, as far as practicable, be cleared away by the relation of cases, in order that surgeons may proceed with more confidence to the only treatment which promises any prospect of relief. It is with that view, and as a contribution to that end, that I send the following case for publication, which (although fatal, and, be it observed, not from any failure in the object of the operation to relieve strangulation) exhibits some impor-

tant particulars available as guides to correct diagnosis, as well as some useful indications worthy of attention in the conduct of such operations, and fully bearing out the truthfulness of the observations which I have elsewhere made upon this subject.

I was requested on Nov. 3d to visit Mr. G., residing at Brixton, a gentleman seventy-nine years of age, during thirty of which he had been the subject of an inguinal hernia on the right side. It was stated that, about one o'clock on the day previous, while at his place of business in town, the hernia had descended, and had become painful, on which account he had applied to Mr. Pape, a gentleman practising in the neighbourhood, and an old friend. Mr. Pape found the hernial tumour about the size of a hen's egg, rather hard and painful, which he proceeded to reduce without delay into the abdomen. This he accomplished without difficulty, and with immediate relief to the pain. After this occurrence, Mr. G. returned to Brixton. When home, the pain, which had not wholly subsided, began again to increase in severity, and to extend over the lower part of the abdomen. Towards evening, vomiting supervened. At this time he was again seen by Mr. Pape, who was shortly joined by Mr. Ord, of Brixton, in consultation. Means were used without producing any alleviation of symptoms, which, on the contrary, after a very disturbed night, became much aggravated in the morning, with a great increase of pain. The vomiting had become more frequent and severe, and had assumed a fæcoid character. At this period Mr. Ord requested my attendance. I found Mr. G. with his symptoms still increasing, his strength prostrate, and his bowels obstinately constipated. It was evident that intestinal obstruction existed. On making an examination of the right inguinal region, there was found a very small and soft tumour at the ring, clearly not a hernia in a state of strangulation. This tumour disappeared on the application of very slight pressure, but reappeared when the patient coughed. It was not painful, and was presumed to be a small portion of adherent omentum. The spermatic cord below it was distinct, and unobscured by any subjacent structure between it and the integuments. By pressure it was ascertained that severe pain existed in the abdomen, a little above the internal ring, and that thence it shot across to the opposite side. By more firm pressure, it was also ascertained that at the same part a tumour could be *very obscurely* felt beneath the abdominal muscles, which, under the pressure, receded deeply into the abdomen, and could be no longer felt. Taking a review of these facts in connexion with the previous history of the case, we came to the conclusion that the hernia which had descended on the yesterday had been reduced *en masse*, and in a state of strangulation. The hope of relief, therefore, by other means than by operation, appeared very slight. With the concurrence of Mr. Ord and Mr. Pape, I consequently proposed that proceeding, to which the patient readily ascented, and it was performed about twenty-five hours from the first descent of the hernia.

Operation.—After the patient had been drawn to the side of the bed, a fold of integuments over the inguinal canal, external ring, and upper part of the spermatic cord, was transfixed and divided to the extent of about four inches. A little dissection brought the small

tumour previously mentioned into view, which was then opened: it contained a very small portion of omentum, so entirely adherent to its sac as to close all communication with the abdomen. It was remarked that the spermatic cord below the tumour was distinctly visible from within an inch of the external ring downwards, being uncovered by any superjacent hernial sac—a circumstance of importance to be noted, since it is highly probable that this part had been covered by sac previously to the reduction of the hernial tumour, which, it will be recollected, was stated to have been as large as a hen's egg. The fact, therefore, became a strong presumption that the sac had been reduced into the abdomen, together with its contents, which the symptoms had previously led us to suppose were in a state of strangulation. On introducing the finger through the ring, nothing could at first be felt indicative of the existence of a tumour within them. But when the adherent omentum and sac were drawn down, a rounded body was brought into contact with the finger, which body was evidently the hernial tumour that we were seeking. It was, however, so deeply seated within the abdominal parietes as not to be freely exposed, except by a greater division of them than I felt justified in making until other expedients had failed. To meet this emergency, I employed traction of the omentum to an extent much more considerable than I had previously done. During the time that this traction was being made, the rounded body formerly felt slipped from under the finger that was introduced within the rings, and could no longer be felt. On continuing the traction, a portion of sac, or what appeared to be so, was brought into view, and held forcibly down by Mr. Ord during the time I continued the dissection necessary for its division. When divided, it was found to have been emptied of its contents, with the exception of some fluid, which escaped.

On introducing the finger through the aperture which I had made, it was found that at the distance of about two inches there existed a considerable contraction, forming a very narrow communication with the general cavity of the abdomen, with rigid margins, and an aperture not larger than sufficient to admit the point of the forefinger. We concluded that we had now reached the original seat of stricture and cause of obstruction, from which we thought the hernial contents had escaped during the manipulations used to bring the tumour into view. The sac being empty, and nothing within the influence of the stricture, I felt satisfied that the operation had been carried sufficiently far, and that in reality we had attained the object of liberating the strangulated hernial contents for which it was undertaken. The wound was therefore closed, and the patient, somewhat exhausted, was placed in bed after a little wine had been administered to him.

It was agreed that neither food nor medicine should be given for three hours, but that a little drink might be taken for the purpose of moistening the mouth and tongue, which last was rather dry and brown. At the end of that time, if no sickness supervened, ℥ij of sulphate of magnesia dissolved in ℥j of peppermint-water, were ordered to be taken every three hours until relief should be obtained from the bowels.

Nov. 4th.—There has not been any vomiting since the operation.

He has taken the medicine as ordered, but the bowels have not acted. The abdomen is somewhat painful at the lower part, and generally tympanitic. There is a little disposition to eructation of gas from the stomach, and some general depression of strength. An enema which was now administered, caused considerable exhaustion: it brought away a small quantity of fæculent matter. The medicine to be continued every two hours.

5th.—In the evening of yesterday exhaustion became so severe as to cause alarm, but this has passed away under the use of stimulants. Stomach tranquil; the bowels have been slightly relieved, and large quantities of gas have passed per rectum, with great relief to the tympanitic condition of the abdomen. The pain and tension have so far diminished, that pressure can be borne without inconvenience; the strength and appetite have also improved: he craves for food.—Ordered a nutritious diet, with a glassful of wine every three hours. The sulphate of magnesia is to be omitted, and ℥ss of castor oil is to be taken immediately.

6th.—The castor oil has acted six or eight times, and the pain and tympany of the abdomen have wholly passed away. Nourishment has been taken plentifully since yesterday, and the patient is in all respects much better.

9th.—Has proceeded favorably since my last visit on the 6th, until this morning, when a considerable change in his condition took place. He is now very much depressed; the pulse is weak; the respiration is rather embarrassed, and he sighs occasionally. The tongue is brown and dry; the wound has healed through half its extent; the remainder appears healthy. Inflammation, however, has attacked the scrotum, and also the integuments above the wound, extending towards the loins. The bowels have continued to act properly since my last visit, and he has taken much nourishment and an allowance of wine. It is now evident that he is sinking. His death took place on the 10th.

Post-mortem was not obtained.

[We recorded a similar case by Mr. Reid, in the last volume of the Abstract, art. 36.]

Art. 39.—*Case of Wry-Neck.—Subcutaneous Section of the Right Sterno-Mastoid Muscle.*

(*Dublin Med. Press*, and *Medical Gazette*, March 1, 1849.)

The patient, æt. 16, admitted into St. Vincent's Hospital, under Dr. Bellingham, January 20, labouring under wry-neck; the head is drawn towards the right shoulder, while the shoulder on that side seems to be elevated towards the head; the eyes and mouth appear to be oblique, and to incline towards the affected side. The sterno-mastoid muscle on the right side becomes very rigid when the head is inclined towards the opposite side, particularly its clavicular origin.

The patient states that when very young he suffered from a swelling near the angle of the jaw of the affected side, subsequent to which the head was drawn towards the shoulder on that side. He has undergone

no treatment; the deformity, he thinks, is increasing, and he is very anxious to have something done for its relief.

January 28th.—As the case appeared to be a favorable one for the subcutaneous section of the sterno-mastoid muscle, and as the clavicular portion of the muscle appeared to be the most tense, it was determined to divide it first.

A fold of skin over the clavicular insertion of the muscle was pinched up, and a narrow straight bistoury passed under it; the edge of the knife was then turned towards the muscle, and by cautiously pressing upon its back, the muscle being kept completely on the stretch by inclining the head to the opposite side, the fibres were divided until no further tension was felt; a loud crackling noise indicated the division of the tendinous fibres, and the patient complained of a good deal of pain at the moment. A piece of lint was laid upon the little orifice, with some strips of adhesive plaster over it. A stiff stock was next put round the patient's neck, so as to keep the divided ends of the muscle apart, and the patient placed in bed; the arm of the affected side was then fastened by a bandage to the knee.

29th.—The patient has scarcely suffered any pain since the operation. A stiffer stock was now substituted for the former, and a bandage was rolled round the head, one end of which was passed under the axilla of the sound side, so as to incline the head towards that side.

Some days subsequently it was deemed advisable to divide the sternal portion of the origin of this muscle. The bandages, &c., were then reapplied as before, and in about three weeks the patient was well enough to leave the hospital, the deformity being scarcely perceptible. He was directed to wear the stock, and to continue the bandage for some time longer.

Remarks.—Under the term Torticollis or Wry-neck, a variety of affections, differing in their seat, nature, and cause, were included by the older writers, which, however, had only the one symptom in common, viz. that the head was permanently inclined towards one or other shoulder, occasioning more or less deformity,—such as disease of the cervical vertebræ, a rheumatic affection of the muscles or ligaments of the cervical spine, paralysis more or less complete of one sterno-mastoid muscle, and the contraction of the cicatrix left after the healing of a burn. These are not, however, to be regarded as examples of torticollis; the term should be restricted to cases in which the muscles alone which draw the head towards one side are contracted and shortened, and the muscle usually engaged is the sterno-cleido-mastoid.

The cause of this contraction and shortening of the sterno-mastoid muscle which produces wry-neck has not been accurately made out; in some instances, it evidently depends upon a vicious habit acquired by the patient when young of keeping the head for a long time bent towards one side, owing to swelling, inflammation, or some other painful affection of the neck, which was relieved by this posture, and when the disease which occasioned this constrained position was cured, the muscle having been long retained in a shortened or contracted state, and not being extended without some pain, the little patient, to avoid this, continued the unnatural position, and the contracted condition of the muscle became permanent. We sometimes see a somewhat ana-

logous example of deformity, in which, however, the head is bent forward, in children who have long been the subjects of neglected strumous ophthalmia; this vicious position having been long retained, owing to the great intolerance of light. In not a few instances, however, wry-neck would appear to be congenital, or to be the result of injury, though unaccompanied by any lesion of the integuments. Of four cases given by Mr. Kirby in his Essay upon the subject, the disease was congenital in three—in the remaining case it was the result of a fall from a horse some months previously.

The appearance of a patient who has long laboured under wry-neck is peculiar; the head is not only more or less inclined towards the shoulder, but the shoulder appears also to be elevated towards the head; the eyes do not seem to be upon the same plane, and the mouth likewise appears to be oblique, inclining towards the diseased side.

The only operation formerly in use for the relief of this deformity, viz. cutting through the integuments as well as the fibres of the sterno-mastoid muscle, does not appear to have been often practised. Mr. Kirby, in his Essay to which I have alluded (published in the year 1819), states that there was no record of its having been performed in this city for seventeen years previously; indeed, in the first case in which he operated, Mr. M'Evoy, a surgeon much his senior, who assisted him, was (he tells us) altogether averse to its performance.

The first account we have of the successful performance of the operation for wry-neck by the subcutaneous section of the sterno-mastoid muscle, was in the practice of Dupuytren in the year 1822; the subject of the case was a young female, in whom the operator was anxious to avoid the disfigurement of a cicatrix in the neck, and it was perfectly successful. This operation (which was perhaps the earliest example of the subcutaneons section of a muscle for the relief of a deformity) does not appear to have been ever repeated by Dupuytren; it was never recorded by him either, and it became known to the profession only from the reports of others who happened to have been spectators. Its success in this instance, however, appears to have induced other surgeons to adopt the practice; and in the hands of Dieffenbach, Stromeyer, and Guerin, it has proved highly successful. To the latter surgeon the merit is principally due of applying the principle generally to the relief of deformities.

According to M. Guerin, the sternal portion of the sterno-mastoid muscle is principally engaged in keeping up the deformity in cases of wry-neck, and he considers the section of this origin of the muscle to be sufficient for its relief in the majority of cases. Indeed he looks upon the sterno-mastoid muscle as composed of two distinct muscles, the functions of which are different, a sterno-mastoid and a cleido-mastoid,—the former being a motor of the head, the latter being essentially a muscle of inspiration.

In the present case, however, as well as in others which have been reported, the clavicular portion of the sterno-mastoid muscle had the principal share in maintaining the deformity; but its section was not sufficient to remove it, and it was subsequently necessary to divide the sternal origin of the muscle.

In the subcutaneous section of tendons or muscles, it has been a

question whether it is most advisable to divide the fibres from without inwards, or in the opposite direction. The method of proceeding which appears to be freest from risk is to make the section from without inwards: though when the plan recommended by M. Guerin can be adopted, it appears to be equally safe, viz. to pass the finger behind the contracted muscle, and isolate it from the subjacent parts, then to pass the knife under it, and divide the fibres, making the section from within outwards.

The success of the treatment of congenital and other deformities, by the subcutaneous section of muscles, depends as much upon the after-treatment as upon the operation; and it is always necessary to adapt some mechanical apparatus to maintain the parts in a proper position; this applies equally to the operation for wry-neck as to anything. In the present case, this indication was fulfilled by placing a stiff stock around the patient's neck, securing the arm of the affected side by a roller to the knee, and applying a bandage to the patient's head, which was then passed under the axilla on the sound side.

Art. 40.—*On the Nature and Treatment of Knock-knees.* By C. F. Lonsdale, Esq., f.r.c.s.

(*Medical Gazette*, June 22, 1849.)

Knock-knees seldom shows itself before the child is put upon its legs, unless it is weak and sickly from birth, or from some illness which has reduced the strength of the child generally, and the ligaments of the joints, as well as other parts of the body. The inside of the knee-joint is naturally weaker than the outside. Any increased weakness, then, that is caused by disease will show itself more readily, and may be increased by the action of the muscles even before the weight of the body falls upon the joint. This may be discovered by placing the legs in such a position that the patella looks directly upwards; and then, trying to approximate the feet, there will be a separation to a greater or less extent, according to the degree of weakness in the joint. In these cases of knock-knees before the child has walked, there is generally emaciation of the whole body; the legs are thin, and the joints look large, merely from the wasting of the soft parts around them, without there being any rickets. The complexion is sallow and pale, and often there is a tendency to scrofula. Early weaning, or bad and insufficient nourishment, may be a cause of this weakness of constitution. It is difficult to conceive knock-knees being congenital, when the position of the child in utero is considered. This kind of deformity, however, in by far the greatest number of cases, commences when the child is first put upon his legs: the immediate cause is, then, mechanical, though the remote one may be constitutional. The weight of the body acting obliquely on the knee-joint, combined with the power of the flexor muscles, are sufficient to commence the deformity, and to increase it.

Simple knock-knee may commence after the period of childhood, and often does so, even up to the age of eighteen or twenty years. In these cases, one of two, or both causes, will most frequently be found

to exist, namely, either the boy (and it is seldom in the female) has grown very rapidly, when the bones grow out of proportion to the strength of the muscles, the consequence of which is, there is not sufficient power to preserve them in their proper relative position to each other; or the boy may have had to carry weights beyond his strength, when the joints are placed under equally unfavorable circumstances. Bakers, porters, and errand-boys are very subject to knock-knees. The bakers, from the nature of their occupation, are seldom healthy; there is a want of strength and vigour in their joints as well as muscles.

When knock-knees makes its appearance after the age of childhood, the persons in whom it occurs will generally be found to be tall. The simple form is distinguished from that dependent upon rickets, from the fact of the bones themselves seldom or never being affected with curvature; whereas, when rickets exists, or even a tendency to it, both the bones of the legs and thighs may be bent most severely in various directions. Simple *genu valga* may be present, like the simple outward curvature of the tibia, in many children who appear to be otherwise strong and healthy, there being no constitutional taint, or any debility from disease and illness, to account for the local weakness of the joint: in these cases the origin may be purely mechanical, either from increased weight of the body, or from irregular action of the muscles.

As a general rule, both knees are affected with the same degree of inward inclination; it is not uncommon, however, to find one more so than the other, which can only be accounted for by supposing the ligaments of one of the knees to have been weaker than the other when the deformity first began, causing a greater obliquity in the bearing of the weight of the one side, and so causing one joint to yield more than the other, and to continue to increase with the same irregularity, from the weight of the body telling with more effect upon it.

Knock-knees cannot exist for any length of time without affecting the ankle-joints, for the oblique position of the tibia throws the lower end so much outwards, that the arch of the foot is pressed upon more on its inner edge than the centre; the consequence of which is, that the whole foot becomes tilted outwards and flattened, and in severe cases the arch is completely destroyed, and the inner margin of the foot, instead of being straight or slightly concave, is rendered convex, owing to the unnatural projection of the astragalus, naviculare and internal cuneiform bones; in fact, the foot is in the condition of valgus, or *flat foot*, produced secondarily, from the altered position of the knee-joints. Where the feet take this altered shape, in conjunction with the knock-knees, I believe it will almost always be found (where it exists in so severe a form as above described) that there is a tendency to rickets, or, at any rate, there is such general debility of the constitution, that other bones and joints are affected either by curvature or with enlargement of the epiphyses. I shall refer again to this point when speaking of rachitic deformities.

The treatment of simple genu valga is to be considered under similar circumstances to those of simple outward curvature of the bones of the leg: 1st. Whether the child will grow out of the deformity?

2d. If not, what will be the result? 3d. What is the best treatment to adopt? The first and second questions may be confidently answered, namely, that many children do grow straight, while many grow worse, until the knees become so much deformed as to require more than mechanical treatment for their relief, and to wear artificial support for a long time afterwards. The same rules are applicable to the treatment of the slight cases of knock-knees as mentioned when considering curvature of the tibia, namely, change of air, strengthening medicines, and good nutritious diet; and here I would again lay the greatest stress upon the necessity of giving the child the benefit of pure country air; and I do not think it matters whether it be at the sea-side or not, where the child has been living in comparatively impure air before. If this plan do not succeed, and the deformity continues to increase, I should certainly recommend mechanical support to the joints, whether the child be in the country or not; for if the knock-knees be but slight, the joints will be all the sooner brought into their natural position, and all risk of increase of the deformity avoided. In the severer form there cannot be a doubt, in my own mind, of the necessity of straightening the knees as soon as possible, to avoid the evil consequences of the ankle-joints and bones of the feet becoming so much displaced, that some permanent weakness may be produced, independently of the ligaments of the knee-joints themselves being so much weakened, that they never regain their proper strength, aad therefore lose all power of keeping the bones in position.

The simplest treatment, and at the same time a very effectual one, is that employed at the Orthopædic Hospital: it consists of two long splints, extending from the hollow of the loins down to below the outer ankle, to nearly the ground. The upper end of the splints are notched with a slit to pass a long webbing-strap through: the object of this strap is to connect the upper ends of the two splints together, to keep them from falling too much forwards. This back strap should be so attached to the splint, that it may lie in the hollow of the loins, just above the projection of the buttock: if it come on this latter part, it only displaces the splint and pulls it upwards, removing the lower end from the ankle; and if the strap be attached too high up, owing to the splint being too long, it will not press against the child's back at all, and it will not steady the splints, besides causing an unnecessary projection beneath the child's clothes. Having procured splints of the proper length and width (the latter being the width of the child's leg about the knee), they must be evenly padded, by making a long cushion of wadding, or loose soft flock, and covered with calico and wash-leather (I often use dark-coloured leather in private practice, it looks neater, and keeps cleaner). It is of importance to attend to the thickness of the lower end of the pad, which should be sufficient to throw the splint well off the outer ankle, to prevent the end of it pressing upon the instep, and so interfering with the child's walking. The pad should not come quite to the end of the splint: it must be fastened to the splint, either by turning it over the edge of it and running it across, or by piercing it through with small loops. If the pad and splint be not fastened together, neither the one nor the other will

keep its place. If the common deal splints are used, the lower end is notched, to allow of the ankle-strap (which must be longer and narrower than the one for the knee) being once twisted round it before it is passed round the ankle, or it may be tied and fastened through with a loop. By keeping the ankle-strap fixed to the splint, the two are preserved in their proper position. Having placed the splints, then, on the outside of either leg, seeing that the upper ends are resting against the trochanters of the thigh-bones, and the lower on the outer ankles, they are to be fixed in this position by buckling the upper strap across the loins, and the lower ones round the ankles. The next point is to confine the knees, and this is done by applying a broad webbing-strap round the joint, taking care that it embraces the head of the tibia as well as the condyle of the femur. It is then to be buckled sufficiently tight to draw the knee outwards towards the splint. In slight cases, the joints can be straightened at once by these means; in the severer cases it must be done more gradually, by tightening the straps a little more every second or third day.

By adopting the above treatment till the knees keep their proper position, when the splints are taken off, all cases of slight knock-knees may be cured in from three to six months. The severer cases occupy a longer time, and require other treatment. One important rule to observe in the employment of the splints is, *never to let the child stand without them before the legs are straight*, and to keep the splints always on the outside,—not to let them fall forwards, when all purchase on the knee-joints would be lost. The legs must of course be evenly bandaged before the straps and splints are applied, to prevent the feet swelling, and the skin being irritated. When the child is washed, and the bandages changed, it should always be made to lie down, to avoid any strain on the ligaments of the knee; for more mischief might be done by so doing, than could be recovered from for some time, and the treatment be thereby unnecessarily prolonged.

Art. 41.—*A Case of Aneurism of the Axillary Artery, with Remarks.* By Henry Hancock, Esq., Surgeon to the Charing-cross Hospital.

(*Lancet*, July 7, 1849.)

W. C.——, aged 34, a bargeman, was sent up, by Mr. Yate, of Godalming, to Charing-cross Hospital, and admitted under my care on Saturday, August 19, 1848, suffering from a large axillary aneurism of the right side.

It appeared that he first experienced uneasiness about six months previously, when he perceived swelling in the part. He applied to a surgeon, who considered the disease as enlargement of the axillary glands, treating it by blisters, iodine, &c., but the pain and swelling continued to increase. Deriving no benefit, he applied to Mr. Yate, who at once decided the case to be aneurism, and sent him up to me at the hospital.

The tumour had increased very rapidly for the last ten weeks, and his sufferings have been so great as to deprive him of sleep for the

week previous to admission. The only cause assigned for the mischief was, that about two years before he had been severely injured by a sack of beans falling upon him.

At the time of admission, a large pulsating tumour occupied the whole of the axilla, and extended under the pectoral muscles, which were pushed forwards, the clavicle being considerably raised. The tumour also extended down the upper two thirds of the arm; he could not bring his elbow to his side; his hand was swollen and numbed, and there was great loss of power and intolerance of motion in the entire limb. The tumour, which diminished on pressure, again augmented when the pressure was removed; it also diminished when the subclavian artery was compressed; there was evident *bruit de soufflet*, and the aneurismal thrill could easily be detected by the touch, whilst the pulsation of the tumour was evident to the eye.

He was ordered to be bled to fourteen ounces, to take two grains of alum thrice daily, with a grain of the muriate of morphia at night.

He continued this medicine until the 26th, when I placed a ligature on the subclavian artery, at the first rib, immediately external to the scalenus-anticus muscle. This was done without much difficulty, and with very little disturbance to the surrounding parts; the only difficulty experienced was from the depth of the artery, which I could but just reach with the point of my index-finger; and for the same reason it was found necessary to diminish the curve of the silver aneurism-needle very considerably before I could insert it beneath the vessel. The ligature having been tied, pulsation could no longer be felt in the tumour; the wound was brought together by sutures and strapping, and the patient put to bed with the arm elevated, and enveloped in warm flannels, by which the temperature of the limb was well kept up during the night and next day. He was ordered an opiate, and saline medicine.

Aug. 27th.—Pulse in the left arm, 102; no pulsation in the right. At one o'clock, pulse had risen to 120, and the patient was uneasy and restless. Ordered to be bled, and to take the following—colchicum wine, half an ounce; tincture of wolfsbane, two drachms; water, eleven ounces. Mix. An ounce to be taken every four hours. At seven in the evening, the pulse had fallen to 100, and the patient was easier. To take one grain of the muriate of morphia.

28th.—Has passed a good night; pulse 104. The tumour, in which there has not been any pulsation since the operation, is diminishing in size. The sutures were removed to-day from the wound, which has nearly united.

29th.—This morning, pulse 116, from which it rose to 130 at noon. Pulsation felt in the right radial artery for the first time since the operation. No pulsation in the tumour. To be bled to twelve ounces, and to take an ounce and a half of cathartic mixture.

He went on very well until September 10th, when he complained of pain in the tumour, which showed signs of inflammation. Warm fomentations applied, and as his pulse had increased to 120, he was bled to ten ounces, and ordered a saline purgative.

Sept. 16th.—Has gone on well up to to-day. The tumour is now angry and red, and a serous fluid oozes from its surface.

17th.—Much the same; the ligature came away from the subclavian artery to-day, it being the twenty-second day from the operation.

23d.—Has continued much the same. To-day, the tumour, which had suppurated, burst at its posterior portion, but as the opening was too high to enable the matter to escape, another opening was made lower down, and a large quantity of offensive blood and matter liberated. The wound made at the operation has almost entirely healed.

26th.—He is doing well; above six ounces of coagulum came away at the time of dressing.

Oct. 3d.—Doing very well; but as there was bagging of matter in the arm, a depending opening was made in that situation.

4th.—Is apparently getting well; the cut made yesterday gave him great relief. He says that he feels better than he has done since the operation. Mr. Guthrie saw him to-day, and considered he was going on favorably. At seven o'clock in the evening, however, whilst taking his gruel, he suddenly exclaimed that his arm had burst, and immediately dropped down, the blood flowing from the sac. He lost nearly three pints of blood. When the house-surgeon reached the spot, the bleeding had stopped, the patient being in a state of syncope, from which he never recovered. The sac was plugged with lint, and stimulants administered, but without effect. I was sent for immediately on the occurrence of the bleeding, and reached him in about three quarters of an hour, just in time to see him breathe his last, on the eighteenth day after the ligature had come away, and the fortieth from the operation.

Post-mortem examination.—A large cavity occupied the whole of the axilla, extending under the pectoral muscles to the sternum in one direction, and down the arm nearly to the elbow in the other; the sac derived but little from the artery, the coats of which entered but slightly into its formation. The subclavian axillary and brachial arteries having been exposed from the arteria innominata, to the bend of the elbow, the axillary artery was carefully examined; it was healthy throughout, except where it communicated with the aneurismal cavity by an opening of about an inch in length, opposite which it was slightly dilated. The artery on the distal side of the opening was diminished in size. The ligature had been placed on the subclavian, nearly midway between the thyroid axis, and the first of the thoracic branches, which, like those of the thyroid axis, appears to be enlarged. The ends of the artery divided by the ligature were closed by adhesive inflammation, strengthened by a coagulum in each of half an inch in length, but which did not extend as far as the collateral branch given off above or below it, in this respect differing from the extent to which it has been commonly supposed to proceed. The artery was of its natural size, and gave off six branches between the part on which the ligature was applied, and the opening in the side of the artery into the sac. Three of these were large, one being equal in size to the thyroid axis, and it is my belief that the fatal hemorrhage took place from one or more of these vessels bringing their blood backwards into the artery above the opening into the sac. This was suppurating, and contained only a small coagulum opposite the opening in the artery, about the size of a small walnut, which adhered to its edges,

and had in all probability closed up the communication between the vessel and the sac, thus preventing the entrance of blood into the latter. When the adhesions of this clot gave way at its lower and anterior portion, for about half an inch, the sudden and fatal hemorrhage took place. It must be admitted, that although the operation was successful in so far as the application and separation of the ligature, the division of the artery, and the adhesion of its extremities were concerned, it was of very little use in this case. It afforded the patient a chance of life, but it singularly failed in the usually supposed result of obliteration of the trunk of the vessel, even to the next collateral branches. The communication between the branches of the thyroid axis and those on the distal side of the ligature soon becoming free and direct, the circulation to the opening in the vessel was, in fact, restored, so that from the moment the suppuration caused the skin to give way, the patient's existence depended upon the small coagulum filling up the opening, thus showing the importance of the sac, and the necessity of its remaining entire, in order to insure success in the operation for aneurism, even when the ligature is applied so closely to the disease as it is usually done in cases of operation on the subclavian artery.

If I had had the good fortune to be present when the bleeding began, I should at once have laid open the sac of the aneurism, now become an abscess, and placed my finger, if possible, on the bleeding vessel, until a ligature could be affixed around it, I should, in fact, have treated the case as one of wounded artery, and which would, in all probability, have required another ligature at its opposite end.

This case proves, in a very remarkable manner, the importance of the sac in all cases of aneurism, and the utter inapplicability of the Hunterian theory of the operation for aneurism to a wounded artery, in which no sac exists—an inapplicability which Mr. Guthrie was the first to bring under the notice of the profession, and which he has so strenuously urged in his lectures, lately published, on Wounds and Injuries of Arteries.

The statistics of the various operations recorded in the European journals, bear testimony to the unfavorable results of the present mode of proceeding. I have collected the particulars of forty-two cases, and they demonstrate, that, in the aggregate, the recoveries number two to one failure; that in those cases traced to injury where the ligature was placed in the situation usually selected on the subclavian, external to the scalenus anticus muscle, the failures are nearly equal to the recoveries; of those in which the axillary artery itself was tied, the whole recovered, as may be seen in the following summary.

Of the forty-two cases, twenty-seven recovered, fourteen failed, and the result of one is not stated. Of the twenty-seven recoveries, fourteen were the result of accident, and thirteen spontaneous or idiopathic. Of the fourteen failures, eight were traced to injury, and six were spontaneous; and of the whole number more than half were those in which the subclavian was tied, the aneurism originating in violence, so that the following are the results:

Four cases the result of accident, the axillary artery tied, and the

whole recovered. In three of these the sac suppurated, and in one of the latter secondary hemorrhage took place on the nineteenth day, but it was easily suppressed by styptics.

Eighteen cases the result of accident; the subclavian artery tied. Ten succeeded, eight failed. In two of the successful cases the sac suppurated, one in a few days, the other not until three years after the operation. Of the eight failures, the sac suppurated in four, in one bursting into the pleural cavity.

Nineteen cases of spontaneous axillary aneurism, the subclavian artery tied, thirteen succeeded, six failed. Of the successful cases, the sac suppurated in three. Of the unsuccessful cases, the sac suppurated in one.

The above, whilst giving the results of the two modes of operation, also shows the relative number of cases in which the sac suppurated in the traumatic and idiopathic form of axillary aneurism, whilst in twenty-two cases resulting from injury we have nine; of nineteen cases originating in disease, we have only four followed by suppuration of the sac.

After the data here given, ought we so indiscriminately to tie the subclavian artery in cases of axillary aneurism as has hitherto been done? Should we not rather tie the axillary artery itself in all cases where the mischief can be traced to a direct injury, and where the size of the tumour admits of our reaching this vessel? Hitherto, whether the aneurism has been caused by a stab, a gunshot wound, rupture by violent stretching, a blow or crush, or by disease, with very few exceptions the treatment has been the same. According to this method, the ligature is applied at such a distance from the sac, that the blood is carried freely into the main trunk between the ligature and the point of rupture; and consequently, in those instances, as in the case above related, where the vessel retains its natural size, and the sac suppurates, the patient must be exposed to secondary hemorrhage and its lamentable consequences; whereas, if the axillary artery is tied close to the sac, and below the large collateral branches, the free current of blood into the sac is prevented, so that should suppuration of the latter take place, it would diminish but slightly the chances of recovery as far as hemorrhage is concerned. We have seen the large proportion of recoveries where this practice has been adopted, and been followed by suppuration; in three out of four cases suppuration took place, but all recovered, and in one, although secondary hemorrhage ensued, it was so slight as to be easily restrained by styptics. How different is this from what obtained in the case I have detailed; there the sac suppurated and hemorrhage occurred, but so violent, that the patient, although receiving immediate assistance, was to all intents dead from the moment it gushed forth.

Art. 42.—*On Fracture of the Base of the Skull.* By John Adams, Esq., Surgeon to the London Hospital.

(*Medical Gazette*, June 1, 1849.)

The great frequency of these cases, (says Mr. Adams,) justifies me in saying that they are highly important, and the signs by which they are

to be recognised during life are so obscure, that I think it unnecessary to apologise for requesting your particular attention to the subject.

In reference to *the frequency of the occurrence*, I may state, that within a few weeks at least four cases have been brought to the hospital, and to show their fatality, I need only observe, that out of eighty-five cases of fractured skull examined at this hospital after death, in a comparatively limited period, fifty-two were found to be fractures of the base alone; nine of the vertex alone, and twenty-four of both base and vertex; so that in a very large proportion of fatal fractures of the cranium the base is found to be implicated. It is impossible to say what number of fractures of the base have been cured, because, as I shall presently show you, the signs by which the accident can be recognised during life are very obscure, and, although many cases of severe injury of the skull are presumed to be of this description, yet it is very difficult to speak positively on this subject. The fatality attending these accidents obviously arises from the enormous amount of injury inflicted on the brain by the violence necessary to produce fracture of the base of the skull.

Fractures of the base are said to come under *that class of fractures* supposed to arise by what is termed *contre-coup*, but I very much doubt whether they strictly belong to this category, at least in the generality of instances. There are four varieties of fracture by *contre-coup:* by this term we understand a fracture occurring at one part of the cranium, when the blow producing the fracture has been received at another; it has been supposed that the very shape of the cranium favours the transmission of injury from one part to another; but it is very questionable, as I shall show you presently, whether the accident is so common as has been imagined, and whether many of these fractures are not the result of direct violence rather than of *contre-coup.* The four varieties of counter-fracture are these: 1st. Where a bone being struck at one part, a fracture occurs at a distant part of the same bone. 2d. Where one bone being struck, an adjacent bone becomes fractured. 3d. Where one side of the cranium receiving a blow, fracture occurs at a part diametrically opposite. 4th. Where the inner table of a bone is broken, the outer remaining entire.

Now let us examine this subject in regard to fractures of the base of the skull. A man falls from a height, and pitches on the vertex of his skull, and the base of the cranium is broken; is this a fracture by *contre-coup?* I do not think so; for you must remember that in this case, although the fall is upon the top of the skull, yet the whole weight of the body is transmitted by the vertebral column to the base of the skull, and we are not surprised that fracture takes place; but here there is direct application of force; so in other cases, as where a man is struck on one side of his head, and the head is driven forcibly against a solid body, fracture occurs at the part coming in contact with the foreign body, and not at the seat of the original blow. I mention these two cases to show you how they admit of a different explanation when carefully examined. Many surgeons altogether discard the idea of practice by *contre-coup:* thus Morgagni says—"That, if by counter-fissure was meant a breach in that part of the cranium which is diametrically opposite to the part wounded or bruised, there could be

none of that difficulty, which they all allow, of finding, or that frequent disappointment in not finding it at all, since an inquiry into such opposite part must always have led to the discovery." Mr. Guthrie has collected the observations of the old writers in surgery on this subject, and comes to a very similar conclusion. But of the occasional occurrence of fracture by *contre-coup* no doubt can be entertained: a case of fracture in the middle of the orbitar plate of the frontal bone, without any mark indicating the extension of fracture to this part, occurred at this hospital about ten years ago, and which fairly represents the form of accident I am now considering.

Placing out of our consideration for the moment the state of the brain, let us see what are *the pathognomonic signs of fracture of the base of the skull?* Hemorrhage from the ear is generally ranked as a symptom of fractured base; this may arise from a variety of sources—thus, it may depend on rupture of the membrana tympani, as in the first case just related; it may depend on rupture of the lateral sinus, or of the carotid artery, as when an extensive fracture traverses the canal, lodging this vessel; in either of the two latter instances the hemorrhage would be so profuse as to leave no doubt as to the nature of the injury. But hemorrhage from the ear is, in my opinion, not pathognomonic of this accident; it is so commonly found in slight cases of injury to the head, and in cases which occur without any untoward symptoms, and many such cases are brought to this hospital, that I feel justified in discarding it as a sign wholly to be relied on. Now, if in a case of injured head, hemorrhage from the ear has taken place, and the injury has been accompanied or succeeded by paralysis of the portio dura, then I should be disposed to regard these signs collectively as indicative of a fractured base; but separately and singly, although it is an important indication, I do not rely upon it as conclusive of the existence of such an accident. Take paralysis of a cerebral nerve; I believe that in many cases permanent or long continued paralysis of parts supplied by any nerve passing out of the base of the skull will afford presumptive, though not positive, evidence of the existence of fractured base; although you must understand that this may result from injury to the brain or root of the nerve irrespective of fracture. There is a case in the hospital at the present time, which I will read to you on some future occasion, bearing on this subject, in which hemorrhage from the left ear has been succeeded by paralysis of the corresponding portio dura, and in which I do not think there can be much doubt as to the existence of fractured base. I remember also another instance, admitted some years ago under the care of another surgeon, of a man who, after severe injury of the head, became the subject of paralysis of the muscles of deglutition, and in whom, from the history of the case, I doubt not that fractured base had existed, involving the lingual, pneumogastric, and glosso-pharyngeal nerves, as they passed out through their respective foramina.

Although, therefore, hemorrhage from the ear and paralysis of nerves passing out of the base of the skull are presumptive signs of fractured base, yet they are not positive signs of this accident; and, indeed, I know only of one symptom which is strictly pathognomonic of the injury, and that is a free discharge of serum from the ear after a severe

injury of the skull. This symptom, however, comes on, not immediately, but on the second or third day after the accident. I remember a case some years ago in this hospital, of a man in whom a serous fluid escaped from the ear in such quantities as to soak through the pillow, and to require repeated changes of linen. A similar case is recorded in the tenth volume of the 'Medical Gazette,' where the patient lost between four and five ounces of a similar fluid in one night; both these cases did well. In the 'Mémoires de la Société de Chirurgie de Paris,' there is an article on this subject by M. Robert, who, from nnmerous dissections, has distinctly traced this phenomenon to a fracture extending across the petrous portion of the temporal bone, and a direct opening from this into the arachnoid cavity.

ART. 43.—*On a Death from Impaction of Food in the Glottis, the Epiglottis being Imperfect.* By D. HOADLEY GABB, Esq., M.R.C.S., Hastings.

(*Lancet*, August 4, 1849.)

A somewhat similar case to Dr. Cotton's, mentioned in the 'Half-Yearly Abstract,' Vol. IX, occurred in the practice of Mr. Gabb, some time ago, which may be worth recording. He was sent for, in haste, to come to Mr. I——, aged fifty, living two miles distant in the country, whom he had attended for epileptic attacks, and who was in an almost imbecile state. It was now stated that he was in a fit. He immediately went on horseback, but on his arrival found him dead. His wife said that they were at dinner, and, as usual, she cut up his dinner for him,—he ate so greedily that she could not trust him to do it. Putting a large piece of mutton chop, uncut, on one side of his plate, she turned her back to reach something off the sideboard, when he took advantage of the opportunity, and tried to bolt the piece of uncut meat. He began gulping, but in a few seconds seemed relieved; again he commenced doing so, when a neighbour came in, who, with the handle of a tablespoon, tried to ram the meat down his throat. He died almost immediately afterwards. By order of the coroner there was a post-mortem examination.

The face and neck were congested, and a fulness could be felt above the larynx. On opening the throat a piece of mutton weighing half an ounce was found very firmly impacted in the rima glottidis, requiring some force to dislodge it. The woman, no doubt, with the handle of the spoon had forced it in. Probably, if no one had meddled with him, he would have been able to relieve himself by his own efforts. One peculiarity of the case was an almost total absence of an epiglottis. There were only the rudiments of one, measuring at the most not more than a line and a half. This deficiency would account for his so often complaining of his food "going the wrong way," and causing fits of spasmodic coughing.

SECT. III.—NATURE AND TREATMENT OF SURGICAL DISEASES.

Art. 44.—*On the Extraction of Foreign Bodies.*

By Johann Friedrich Dieffenbach.

(Excerpta from his *Operative Surgery; Med. Times*, August 1849.)

I.—Removal of foreign bodies from natural cavities, within reach of the surgeon.

II.—Removal of foreign bodies which have penetrated the textures.

I. *The Removal of Foreign Bodies from Natural Cavities, within reach of the Surgeon.*

1st. *The removal of foreign bodies from the nasal cavity.*—Foreign bodies in this locality are met with most frequently in children of from three to six years old. Their abstraction is often very difficult, especially when they have caused swelling, are firmly fixed, and situate high up. The most common are leguminous seeds, peas, beans, little stones, glass beads, bits of wood, pipe-stalks; in the instance of adults, ends of pipes, buttons of foils, fragments of pincers, silver wire left behind after attempts to remove polypus, dossils of lint, blotting-paper, and compressed sponge, which may have served as plugs, to check hemorrhage.

In the first place it is requisite to ascertain the nature of the foreign body, and also the nostril in which it is lodged. For this purpose, the patient being seated facing a window, the surgeon gently introduces a blunt silver probe, curved at the end, and moistened. The substance, if small, and not wedged in, may be directly extracted with the probe, insinuating the concave side of the instrument behind it, and securing it in a favorable position. Sometimes the irritation excites sneezing, and whenever this can be foreseen from the grimaces of the patient, sudden pressure is to be made on the opposite nostril, whereby the body will be expelled through the current of air and the concussion. This will occasionally follow a pinch of snuff.

Should the first attempt fail, and the surgeon be aware of the situation of the foreign body, the head is to be thrown back, supported by an assistant, while with the left hand he presses upwards the tip of the nose. If the subject be a child, he takes a strong silver director, bent at the end like a flat hook, passes it from below upwards round the extraneous substance, lowers his hand in order to elevate the point, and withdraws it in that direction. For infants an oculist's curette will be found suitable. When the substance is firmly fixed, and cannot be got away with the above instrument, a small pincer may be employed, in the manner of a polypus-forceps, one blade being directed upwards, the other downwards. The expanded blades being made to grasp the body, a few gentle to and fro movements are performed, and the extraction achieved. It is not safe to exercise much pressure in the instance of glass beads, lest they break, or even with regard to swollen beans or peas, lest they be crushed. Residuary fragments

often create more mischief than the original mass. These are best removed with an ordinary forceps.

The dislodgment of firmly impacted hard substances from the nostril is frequently difficult. I generally use a straight polypus forceps. The manipulations here are the same as for the torsion or extraction of solid nasal polypus. The hemorrhage is ofttimes considerable; to be arrested only by cold injections and cold applications to the forehead and nose. Where the foreign body is too large to pass the nasal orifice or to be pushed into the throat, it is necessary to divide the ala nasi. Bulky substances alone ought to be propelled into the gullet, because, if small, there is the risk of danger of their dropping into the windpipe. Bits of sponge, lint, and other kinds of plugs are readily withdrawn by the aid of polypus-forceps, after water has been previously squirted up. To allay pain and inflammation, tepid injections of decoction of mallows may be thrown into the nostrils.

2d. *The extraction of foreign bodies from the external auditory passage.*—This is often indispensable in the instance of children who have stuck peas, beads, berries, portions of chalk or stone in the ears. These are most readily scooped out with a curved director or a curette; if in the anterior part of the auditory tube, with forceps. In adults the meatus is sometimes blocked up with dead insects, plugs of cotton, and other things incrusted with cerumen, or with indurated cerumen itself. These, the cause of continued deafness for years, are best extracted with moderate-sized polypus-forceps. It is advisable to drop in beforehand a little almond oil, and allow the patient to recline upon the opposite side of the head. Great caution is to be observed, so as not to injure the walls of the meatus, or the tympanum. Should violent bleeding supervene, and there be no likelihood of completing the operation at one sitting, cold, and afterwards warm, applications are to be resorted to, so as to favour suppuration. Subsequently, when the parts are relaxed, the substance may be extracted. Fabricius Hildanus witnessed hemicrania, debility of the entire half of the body, obstinate cough, amenorrhœa, epilepsy, and wasting of the arm ensue from the circumstance of a bead having been forced into the ear. Restoration to health followed its abstraction. Sabatier saw typhus fever and death consequent upon the pressure of a pellet of paper in this situation. Power observed protracted salivation and atrophy result from a dossil of wool. I have noticed, after the removal of foreign bodies, long impacted in the ear, that the hearing became so acutely sensitive, as to require the ears to be stopped with cotton. Should a living insect create any distressing symptoms, it may be picked out by the aid of a tuft of cotton fastened to the end of a match; or killed with a drop of oil, and then readily extricated. Solution of acetate of lead, dilute cherry-laurel water, and a weak solution of corrosive sublimate have been used for the same purpose. Comperat destroyed an insect larva in the meatus auditorius by means of tincture of opium. Andry states that a round worm crept along the eustachian tube into the ear.

3d. *The extraction of foreign bodies from betwixt the eyelids and the eyeball.*—These are of every variety, mostly grains of sand, particles of lime, insects, seeds, and the like. They either lie free between the

lids and ball of the eye, or are imbedded in the surface of the cornea or sclerotica,—for example, splinters of steel. Foreign bodies, situate beneath the eyelids, are easily removed, provided these are not inflamed and can be held apart. If situate under the lower lid, this is to be depressed with the left index-finger, held firmly upon the skin. If under the upper lid, the central eyelashes are to be seized with the fingers, and the lid gently dragged from the globe; then, upon the patient throwing his head backwards, the operator keeping his eye fixed on the intervening space, withdraws the mote by the help of a blunt forceps. The curette answers well when the substance is round; dust, sand, and the like are got rid of by a hair pencil, together with aqueous injections; acrid matters, as gunpowder, salt, pepper, by means of a pencil soaked in almond oil. Irritant chemical substances are neutralized by appropriate liquids, and their effects counteracted by a strict antiphlogistic after-treatment; if the eyelids are greatly swollen, they must be carefully opened, and then syringed with warm milk.

Foreign bodies, which penetrate and are firmly fixed within the inner membranes of the lids, are not easily reached, especially when the eyeball is much inflamed and the eyelids are closed from inflammatory swelling. When such is the case previous resort must be had to local or general bloodletting, cold applications, and where the substance has remained a considerable time to tepid, mucilaginous, and narcotic applications. The speculum is seldom admissible from the risk of irritating the eyelids.

If the penetrant body is sharp, angular, and firmly imbedded, it must be removed at all hazards, for fear of its perforating the eyeball. Where it cannot be picked out with forceps, and is endangering sight, the external commissure of the lids ought to be snipped. The section of the conjunctiva is generally required for its elimination.

For the removal of minute bodies projected into the membranes of the globe, as tiny splinters of metal, glass, flint, or points of needles, the forceps of Professor von Ammon is convenient, the eyelids being held asunder with the ordinary speculum. Very small splinters are most readily extracted with a cataract needle. The surgeon may occasionally avail himself of the hooks employed in strabismus operations, for the purpose of fixing the eye. In the instance of seeds of corn, which do not perforate the eye, it is generally necessary to dilate the minute aperture with a fine cutting instrument, ere they can be withdrawn with the forceps.

When the foreign body has remained so long as to have got incased in a capsule, a slight incision is to be made, after which it may be picked out with the point of the knife or with forceps.

4th. *The extraction of foreign bodies from the larynx or air-tubes.*—(See also some remarks on this subject in our Report on Surgery, vol. IX.)—The extraction of foreign bodies from the air-tubes is an impracticable operation, partly owing to the physiological structure of the parts, and partly to the coincident irritation. The slightest attempt of the kind augments the jeopardy to life. If it be a pointed body, as a needle or a fish-bone, there is always a chance of its having stuck in the superior portion of the windpipe. Here, after depressing the tongue with a spatula, it may be seized with a long forceps. Small round substances

are apt to fall into the windpipe, and occasion by their ascent and descent, during the act of respiration, the most alarming symptoms. How are they to be secured? With forceps? Death would inevitably follow the experiment. Desault alone proposed the passing of an elastic catheter from the nostril into the trachea.

As a general rule, the foreign body, if of small dimensions, as a pea or little bean, after having lodged for a while in the trachea, drops into a bronchus, commonly the right, because that is shorter and wider than the other. After careful dissections, I have always found it in the right, and never in the left bronchus. It will seldom be evacuated by sneezing provoked artificially, by coughing, vomiting, or by inclination of the head forwards. Only by prompt opening of the larynx or the trachea, can life be saved. All other means are fruitless. Its exact position can be rarely ascertained by percussion, inasmuch as it is constantly shifting to and fro during the first period after the accident, through the movements of respiration and cough.

5th. *The extraction of foreign bodies from the cavity of the mouth and gullet.*—Foreign bodies become fixed in the mouth only after having penetrated the mucous membrane, and are easily removed. When situate in the fauces or gullet, they create intolerable irritation, and eventually inflammation, if of a sharp or acrid description. Their immediate removal is therefore indispensable. Where there is a prospect of this being accomplished without operative interference, an endeavour may be made to provoke vomiting, by thrusting down the end of a feather dipped in oil; if the patient has the power of swallowing, an emetic may be exhibited by the mouth, or, under urgent circumstances, injected into a vein. This treatment can apply only to small substances, for, if large and firmly impacted, the gullet may be ruptured. In all examinations with instruments, the tongue ought to be depressed to the utmost.

The body in question must either be withdrawn, or hurried into the stomach. The first course is the best, the last often dangerous. Venesection is occasionally indicated. Should everything fail, œsophagotomy is the sole alternative.

The substances which lodge in the fauces are generally small and pointed, such as fish-bones and needles, most frequently the former. The patient being seated, is directed to gape and make a deep inspiration, whereby the velum is elevated, and the surgeon enabled to detect and extract the bone with a forceps. A lady, after eating some cake, suddenly shrieked with pain. I could perceive nothing about the neck, but on carrying my forefinger to the back of the tongue, brought away a long thick bristle, which lay archwise across.

Foreign bodies observe in their transit certain *stations* at which they halt; thus, in the pharynx, behind the thyroid and cricoid cartilages, in the beginning of the gullet, or at its lower end, close to the diaphragm or cardia. They seldom stop at the middle of the gullet. If very large, they may cause suffocation; thus a large piece of meat, a hard-boiled egg, a pear, a chesnut, have each proved fatal. Guattani witnessed the most frightful death ensue from a chesnut; the part of the gullet at which it stuck was gangrenous. Spiritus saw the same result follow the swallowing of a five-franc piece, which perforated the

gullet above the cardiac orifice. Needles, inadvertently swallowed, pierce sometimes the gullet or stomach, advance by the aid of suppuration or otherwise towards the surface, and either escape spontaneously or through incision. Lyson observed a case where three needles that went in at the mouth came out at the shoulder; I have known one issue at the arm.

The procedure must be modified according to the nature of the substance. None but a bungler would attempt to disgorge a piece of meat sticking at the cardiac opening, or urge on a fragment of glass from the gullet into the stomach. External pressure will suffice for potatoes or plums when stuck in the throat.

For the withdrawal of needles, fish-bones, and the like, there is no better implement than a large goose or swan quill-feather, with the barbed portion ruffled, and imbued with oil. The patient sits with his head leaning upon the breast of an assistant, while the surgeon lowers the tongue, then introduces the feather, with its concave side downwards, into the throat, turns it rapidly round, and draws it out. The popular practice of swallowing a crust of bread is sometimes availing, but may also increase the peril when arrested above the bone. A sudden slap on the back is by no means a bad plan, when the substance is large and obtuse. It is preferable to that of setting the patient on his head, as was done in the instance of Mr. Brunel, to promote the expulsion of the half-sovereign piece.

The principal instruments employed for the present purpose are of the description of forceps. Dupuytren advises, as a preliminary step, the introduction of a gum-elastic tube, surmounted with a silver ball, in order to ascertain the position of the foreign body. This, however, is superfluous, and will tend, moreover, to augment irritation. Cooper recommends the forceps of Weiss. The so-called leaden hammer of earlier writers consisted of a lead ball attached to a string, which was let down the throat, and pulled up again. Mesnier's lead hammer was of an olive shape; Petit's was equipped with a wire instead of a string. Petit used, besides, a metal noose fastened to a whalebone stem; Fabricius Hildanus a many-holed silver tube, provided below with a sponge. The double ring of Graefe, attached to the end of a rod of whalebone with a steel spring, is very convenient for taking pieces of money out of the throat. The customary instrument, termed *répoussoir*, or probang, namely, a bit of sponge as big as a walnut, stuck to the end of a whalebone rod, is generally useful either for entangling fish-bones and the like, or propelling large round substances. My own procedure is as follows: if the body be small and sharp, I employ the oiled feather as above described. An oiled wax taper, passed down to the cardiac orifice, has proved serviceable; for, as soon as withdrawn, the body has been rejected. If the body be large, as a portion of flesh-meat adherent to a fragment of bone, I use a lithotrite with an imperforate scoop, and rather straight. The instrument is introduced with the blades closed, until it arrives at its destination, when these are to be separated sufficiently to grasp the substance, and, after a few gentle turns, withdrawn.

When there is impending suffocation from the presence of very large bodies impacted in the throat, Habicot enjoins tracheotomy before

resorting to opening the œsophagus. I have never been compelled to this extreme measure. The most difficult thing to deal with are sets of false teeth when swallowed. I once relieved an old lady in this predicament by means of my fingers. On several occasions I have removed, with curved polypus-forceps, from three to four teeth attached to a gold plate, and which got accidentally into the throat; once, by the aid of an emetic, as a last resort, a set of four teeth very deeply located.

In all these operations the patient is to be in a sitting posture, the head properly supported, the mouth rinsed with tepid water, tepid water mixed with white of egg taken as a drink, and the instrument smeared with white of egg rather than with oil.

6th. *Of foreign bodies in the stomach and intestines.*—Foreign bodies may accumulate to enormous loads in the stomach before they endanger life. Fournier mentions a galley-slave who, after swallowing for years all sorts of extraneous substances, ultimately died of ileus. In his stomach were amassed twenty-eight bits of wood, a few small pewter spoons, several nails, buckles, weighing altogether one pound ten ounces. Bjerländer relates the instance of a man who swallowed a great many copper coins, a pocket-knife, and a steel for striking fire, all of which were, however, rejected. Needles, bones of fish and of small poultry, are sometimes voided with impunity; at other times retained, perforate the tunics of the stomach or the intestines, and migrate towards the surface, the track which they permeate being progressively closed as they advance. Small pointed bodies are found in the most unaccountable localities. Heim the younger records several instances of fragments of bone, grains of corn, and the like, which he detected in the *appendix cæci vermiformis.* I once met with a fish-bone, half an inch long, in that situation, while examining the dead body of an aged female. I have not unfrequently seen fish-bones and sharp osseous spiculæ discharged from fistulous openings about the verge of the anus, which had evidently perforated the rectum posteriorly to the sphincter, and given rise to fistula.

Leeches occasionally find their way into the stomach, and fasten themselves to its inner membrane. Numerous minute leeches were discovered in Egypt by Larrey in the stomachs of soldiers, who had died in consequence. When this happens, the patient ought to drink a quantity of strong solution of common salt to destroy the annelid, and afterwards an aperient dose of sulphate of magnesia, to bring it away from the bowels.

When the substance remains, even after free vomiting has been induced, large quantities of white of egg ought to be administered either directly by the mouth or the stomach-pump, aided by clysters of the same, anodynes, venesection, and leeches. Should death not ensue, or the body not pass by the anus, Nature, in some rare cases, favours its escape by the formation of abscess, and art by incision through the stomach or intestine.

7th. *The extraction of foreign bodies from the rectum.*—These have either traversed the whole intestinal canal, or originated from hardened fæces in the rectum, or entered from without.

The most appropriate instruments for their removal are bullet-

forceps, polypus-forceps, small lithotomy-forceps, smooth blunt hooks of the breadth of the finger, and scoops with long handles. Before operating, the rectum is to be filled with gruel mixed with one fourth of olive oil, in order to prevent its coats from getting into contact with the foreign substance, or damaged by the forceps. The patient is made to lean over the back of a chair and grasp its front edge, the buttocks being held apart by an assistant standing to the left side. The anus is then closed with the left hand, and the forceps, well oiled and shut, introduced by a gentle movement betwixt the fingers. The blades are next separated, carried upwards, and then approximated. The surgeon will soon be sensible whether he has secured the object of his search; if not, he directs the blades upwards and downwards till he has; he then drags it out by a slight rotatory motion, as in the extraction of a stone during lithotomy. An irresistible call to stool seizes the patient, the liquid contents gush forth in a full stream, and at that moment the foreign body is evacuated. I have thus more than once taken away a mass of incrusted excrement which had been for years accumulating in the gut. I succeeded by the aid of a silver spoon in relieving an old gentleman thoroughly of an infirmity which had troubled him for a long period of time. He had previously been treated for stricture of the rectum by means of bougies, and once by dilatation through incision. He had annually resorted to Carlsbad to drink the waters, the radical evil having been overlooked. All loose stools uniformly swept by the incrusted fæces. The extracted lumps possessed a calcareous crust, and were very voluminous.

Leber failed in removing, by the forceps, a piece of wood one foot long, and one inch thick; he at length bored it through, and pulled it out. Marchetti extracted a dried sow's tail by passing some membrane over it, so as to hinder the short prickly bristles from irritating the mucous lining. Von Walther drew away with forceps from the rectum of a peasant a piece of the root of a tree, which measured seven inches; Von Graefe, in like manner, the end of a stick; and myself a shoemaker's pliers from a lad.

Wherever the foreign body, either on account of its magnitude, or its being obliquely wedged in, cannot be got away without violence, it will be expedient to enlarge the orifice of the anus with a probe-pointed bistoury. In order to insure a clean incision, the left index-finger, smeared with oil, is to be inserted with the volar aspect towards the sacrum, as a guide for the knife, which is made to cut for about an inch in the direction of the *os coccygis*. This facilitates the extraction, and the wound readily heals under cold applications, and injections of gruel into the rectum.

8th. *The extraction of foreign bodies from the female parts of generation.*—For this purpose the surgeon may commonly use his fingers or a polypus-forceps; but if the foreign body be bulky and wedged in, then bullet- or lithotomy-forceps and broad hooks. The patient being seated upon the edge of a table, facing the light, with the thighs held widely apart by two assistants, the surgeon squirts a little oil into the vagina, examines the nature of the body with the fingers and speculum, then passes up the forceps previously oiled, gradually opens them, insinuating one blade behind the body, and finally withdraws it

in the line of the pelvic axis. This is nowise difficult, when the body is not very irregular in shape, and the parts are not inflamed or swollen. Where, on the contrary, the vagina is contracted and deprived of elasticity through inflammation and puriform secretion, and the substance large, it must be broken up into fragments and taken away piecemeal.

After its removal, the vagina ought to be well syringed, and the patient put into a warm bath. Mucilaginous decoctions may be subsequently injected, and the parts fomented with infusion of chamomile and Goulard lotion.

Foreign bodies in this situation are of every variety. If allowed to remain long, they determine inflammation, suppuration, and rupture of the vagina, either into the rectum or the bladder. Thus communication with these cavities, and effusion of their contents into the vagina, is the obvious result. Foreign bodies, if sharp and angular, occasion, now and then, dangerous lesions. I once had to remove from a young lady a number of different-sized fragments of a porcelain urinal which had broken under her. The labia were severely wounded, and the vagina completely filled with the sherd. The hemorrhage was so excessive as to have caused fainting. I extracted the whole by means of polypus-forceps, and inserted a few fine sutures. The wounds healed promptly. Large, incrusted, and firmly-adherent sponges were removed by me with lithotomy-forceps, as also a variety of full-sized wooden pessaries, all in like manner covered with a crust. Some of these I was obliged to break, using several forceps, with the aid of assistants, or else cut them in half with Liston's bone-scissors. Morand withdrew from a lady a silver pessary through the openings in which bridles had shot across, and held it fast. Dupuytren extracted from a nymphomaniac a pomatum pot; on another occasion, an old ring-pessary, which was wedged in, and caused most urgent symptoms. A girl introduced the cone of a pine into the vagina. The sharp imbricated scales got lodged in the mucous membrane, and were picked out one by one after the cone had been cut in pieces. The vagina was excessively turgid.

II. The removal of foreign bodies which have penetrated the textures.

1. *The extraction of foreign bodies from wounds, or from suppurating canals.*—A vast multitude of instruments have been contrived for the removal of foreign bodies from the living organism,—a manifest proof of the difficulty and importance of the procedure. Most of these apply to the removal of bullets, by far the most momentous. They are chiefly forceps, scoops, or hooks, and also gimlets for boring holes into those imbedded in bone, in order to facilitate extraction. Many are useful, many superfluous, and others detrimental. The simple are the best.

The most eligible ball-extractor, according to my experience, is a straight, uniformly round, strong forceps, fashioned like a straight polypus-forceps. Its branches and handles must be longer, and its thickness more than double that of any polypus-forceps, that it may not break. It must, for the same reason, be without perforations, its

inner edges armed with strong teeth; externally, finely polished, so as not to irritate the raw surface.

In addition to the forceps, the surgeon ought to be provided with two bullet-scoops, a strong silver probe, a large syringe, a probe-pointed bistoury, and blunt hooks.

The patient ought to be put in the same position as that in which he received the wound, otherwise muscular fibres, fasciæ, tendons, get misplaced, and tend to perplex the passage through which the projectile entered. Should inflammation have assailed the wound, it must be treated in the usual way, and no operation attempted till its subsidence.

The act of exploration demands the utmost foresight, all noise being excluded, so that the surgeon may clearly distinguish what the probe strikes against. If the ball is to be felt plainly, it is to be extracted. The forceps, smeared with oil, are introduced shut, opened when they reach the ball, made to catch hold of it, and, with a few gentle turns, gradually withdrawn. Care must be had not to injure the sides of the wound. Sometimes the ball may seem to be deeply seated when really near the surface, and *vice versâ*.

The dilatation of the canal or tube formed by the track of the ball is, in general, highly prejudicial; but the wound in the integument may be dilated when it will not admit the forceps. The position that a gun-shot wound should be transformed into an incised wound, is false; to enlarge the wound is to increase the danger. Only in the instance of great extravasation, of loose portions of bone, or of shells, or accumulations of pus, is dilatation permissible. If the ball has penetrated a bone, and cannot be got away with forceps, it may be eased out with a gouge. The suggestion of using quicksilver, to form an amalgam with the lead, is most objectionable.

If there be no immediate prospect of removing the ball, all further attempts should be postponed until suppuration is established, when they may be renewed with some likelihood of success. Frequently balls heal up within the bone, are overgrown with osseous deposit, or else encysted in the soft textures.

In other cases the ball separates of itself, and comes away after the lapse of months, when the tube has been rendered wider by the process of suppuration, the fat and muscles absorbed, and the patient accustomed himself to lie upon the corresponding side.

Occasionally the ball cannot be found. It may have deviated from its track, swept round a bone, or taken a totally different course than could have been expected from the direction of the tube. Under such circumstances all interference is futile. Are there two openings in a limb? The lesser is the inlet; the greater the outlet. Of course probing is out of the question, for the ball is escaped. But yet, despite of two openings, a ball may be present. I was called in consultation with Dr. Casper to a young Russian, who had shot himself. There was an opening on the chest anteriorly, and another on the back, both of the same size. At the cadaveric inspection a bullet was found in the thoracic cavity. The pistol, therefore, had been loaded with two balls. Of these, one had passed through, while the other

remained. Should the ball be lying beneath the integument on the opposite side, all groping in the tube formed by its track is improper; nothing more is needed than to make an incision through the skin and extract it. Bony splinters ought to be left until detached; otherwise dangerous bleeding may result. If the bone is fractured, no search should be made. Wounded arteries must be secured with ligature a little above the wound, which is not to be disturbed. Portions of wadding are to be removed with hooked forceps, ball-drawers, or bent hooks. It may be laid down, however, as a general rule in all the above cases, that the less interference the better.

When balls are driven into the surface of the skull, they may be loosened with a chisel or with Heine's saw: when the inner table is perforated, and the bullet wholly or to a great extent forced inwards, the aid of the trephine will be required for its withdrawal. The surgeon ought not to go in quest of bullets lodged within the chest or abdomen; he may, if accessible, remove them from the wound, but make no attempt at dilatation. Afterwards the edges should be carefully brought together and retained in apposition by strips of adhesive plaster and a compress, even although other foreign bodies be infixed.

The extraction of balls, grape and the like, from the cavity of a joint or the head of an articulation, is attended with much difficulty, and only admissible when the ball will readily yield, as amputation is generally indispensable before the occurrence of inflammation.

Small pistol-shot, deer and hail-shot, do far less mischief than those of greater diameter. They either perforate the limb, or remain and are healed in the flesh. They ought to be removed only after recent injuries, when they can be easily laid hold of with dressing or polypus forceps. Hail-shot may be let alone, if deeply inserted; but if superficial, picked out with a curette.

Angular fragments, as those of bombs and grenades, chopped lead and nails, splinters of the carriages of cannon, or of ships (during sea-fights), cause the most complicated lacerations, and their excision by dilatation is as urgently indicated as the opposite, or passive plan, in the instance of smooth spherical shot. In every case the incision is to be made in the longitudinal axis of the limb, in the course of the muscles, nerves, and blood-vessels, preparatory to the removal of the extraneous substance, which must be done with extreme circumspection.

Sharp-pointed bodies, as the ends of swords, nails, and the like, are more readily extracted than bullets, because more freedom may be used in incising the wound, and in tracing with the probe. For this purpose a dressing forceps is alone requisite. I have often been at considerable pains in removing the points of rapiers which had entered the body during duels. A portion of a two-edged sword, the length of the finger, was once carried with such vehemence into the body of one of the lumbar vertebræ from behind, that, although the broken end protruded, I was obliged to use great exertion to remove it. The wound got well without any untoward symptom.

Arrows driven into the body, armed with barbs, barbed hooks, or other metallic hooked implements, are to be taken out in the same way as they entered, after previous dilatation by means of a cutting

instrument. If the missile has reached the opposite side, a counter-opening may be made for its exit.

Needles, whether entire or broken, which have penetrated the flesh, need no extensive section for their removal. If the needle is lying lengthwise, I usually force it out by its point without cutting, namely, by simply pressing up the skin with my fingers against the two ends. So soon as the point makes its appearance it is grasped with forceps, and the whole withdrawn. I thus extracted a large needle from a lad, which had passed through the urethra backwards to the neck of the bladder. The patient having been placed as in the operation for lithotomy, I inserted one finger into the rectum, exercised counter-pressure with the fingers of the left hand upon the gut, and, having brought the point into view, plucked out the entire needle with forceps. Should the needle not be discovered after incising the integument, and careful probing, the wound must be left to suppurate, and further trials made during the employment of poultices.

Fragments of glass or porcelain ought to be removed forthwith by incision. As the external wound is, for the most part, complicated, incisions cannot do harm. Great delicacy is required, so as not to crush the broken fragment with the forceps during extraction. Suppuration is to be afterwards promoted, lest any particle be left and prove a future source of nervous irritation.

Grains of powder must be picked out with a full-sized cataract needle, or with the point of a fine scalpel.

In the instance of poisoned wounds excision is the only sure course. If impracticable, the parts should be bathed with tepid water, freely scarified, set to suppurate, or covered with poultices medicated with solution of caustic potash. After the bite of a rabid animal, energetic suppuration ought to be kept up by the agency of powdered cantharides, applied topically, ointment of the same, and, subsequently, mild resinous dressing. The cauterization of poisoned wounds is most objectionable practice, inasmuch as the resulting dry eschar serves to retain the poison in the system.

2. *The removal of foreign substances healed up within the body.*—In cases of this kind, where no annoyance is created by the presence of the foreign body, the best plan is to let it alone. Where, on the other hand, accidents arise, either from its pressing upon a nerve, or from its approaching a joint and impairing its mobility, or from its beginning to cause shooting pains, measures ought to be taken for its removal. A ball often makes its way to the opposite side to which it entered, and can be there distinctly felt.

The patient is to be placed in a recumbent posture, and so adjusted as to relax the muscles of the part implicated, that the surgeon may be enabled to feel the ball. Should he fail in doing so, but perceive, on pressing some suspicious spot, that considerable pain is complained of, let him plunge a pin, such as is used for transfixing insects, the length of the finger down through the flesh. If resistance is felt in a situation remote from bone, and a sound emitted on a gentle tap being given with a small hammer, he may rest assured the ball is there, and will not have to operate in vain. I have in this way discovered balls very deeply imbedded.

The patient being properly secured, the incision may be carried the length of two inches, if the ball be near the surface; but, if profoundly lodged, as in the thigh or buttock, it may extend to three or four inches, always following the course of the muscular fibres, blood-vessels, nerves, and tendons. In the proximity of joints, the cut need not be larger than will admit a straight polypus forceps. It will often prove advantageous to make, with a small narrow knife, a minute incision several inches below the articulation and below the ball, thereby form a punctured channel, and remove the ball according to the subcutaneous method. The utmost caution, however, is necessary, so as not to open the capsule of the joint, or injure the vessels and nerves.

Should a ball create disturbance after a lapse of several years, this is probably due to necrosis or caries. Here the surrounding parts will be inflamed and swollen, and the indication not to disturb the ball, but to further suppuration by means of hot poultices. When this is established, an incision may be made, the ball extracted, and suitable treatment adopted.

A foreign substance which has tarried long in the organism becomes invested with a tough capsule. This ought to be slit across, and after the withdrawal of the ball its posterior wall divided, and sides freely scarified, as being little susceptible of inflammation. When these precautions are not attended to, a cavity is left after the closure of the wound, which may form a secreting surface, and lead to troublesome consequences, at any rate, to re-opening of the wound.

I have repeatedly, by the aid of small incisions and forceps, extracted from the hairy scalp the teeth of horn and tortoiseshell combs, which had remained fixed beneath the skin for years, and caused much inconvenience; in like manner, rusty needles, from various parts of the body, which had got broken by the action of the muscles.

Sharp-pointed substances, as fragments of nails or glass, when infixed in the soles of the feet, the palms of the hands, or the bends of the fingers, are apt to occasion much distress. I removed from the sole of the foot of an English officer a long splinter of glass, which had been healed in, and caused a deal of suffering. It is often necessary to excise, at the same time, hard prominent star-like scars, in order to restore the integrity of the part, and more efficiently remove the extraneous substance. A young girl, who was afflicted with epileptic fits, spasmodic contraction of the arm, with wasting, had a number of irregular cicatrices in the hand and bend of the fingers, which were simultaneously drawn together with and through the spasms. It was stated that she had fallen upon her hand among glass many years previously. Expecting to find splinters, I dissected out of the cicatrices, and discovered, in the firmest of the number, a slip of glass resembling a fish scale. This had evidently determined all her ailments, for the epilepsy and spasmodic contraction ceased, and she recovered the perfect use of the limb.

3. *The extraction of fragments of dead bone.*—The interference of surgery is seldom required until the necrosed bone is separated from the adjunct parts by a distinct line of demarcation internally. Much benefit will be derived from judicious medical treatment. Thus tonic remedies, in conjunction with phosphoric acid, and also alkaline baths

and poultices to favour exfoliation, and induce liquefaction of the callous integument, will be found highly serviceable. When the bony particles get loose, perforate or project beneath the skin, their removal may be accomplished by a small incision. More persons, however, have lost their lives or their limbs by premature attempts to remove dead, or partially dead, pieces of bone, than been relieved by such operations. The process of necrosis requires, at least in the instance of the large bones, years for its termination, as regards unhealthy individuals. All efforts to accelerate merely tend to retard, nor are they exempt from danger to patients reduced by protracted disease. If the *sequester* held only by the soft parts, keeps up inflammation and abscess, it will be right to divide the skin, or dilate a pre-existing aperture, and then seize the bone at one end with forceps and withdraw it. In general, the necrosed fragments of the superficial layers get uplifted by the granulations at the base, and compress the skin, which is thereby attenuated and easily ruptured. During the chronic progress of necrosis of an entire long bone, of which the articular ends pass into the recent structure, the old dead portion is so firmly incased, as not to be readily thrown off. Here patient forbearance is requisite. The outer opening may be dilated with sponge tents, and trials instituted to bring away piece by piece; and small bullet forceps, similar to polypus forceps, or a gimblet, employed, provided the fragment is loose. If the osseous cavity be extensive, the dead portions may be either extracted or crushed by means of a lithrotrite. I have more than once excavated a *sequester*, half as long again as the finger, from its recent bony envelope in the tibia, without previous dilatation of the *cloaca*, by the help of a watchmaker's drill, to which a tubular trephine, of the size of a swan quill, was attached.

As in the cylindrical bones, so likewise in those of the cranium, are all manœuvres to get rid of dead fragments with saw or chisel contra-indicated. Exposure of the necrosed part by a linear cut, where the bone is no longer protected externally by periosteum, is the sole operative procedure to be sanctioned; even a crucial incision is too much. Under the employment of moist warmth, exfoliation is more rapid than in the case of the long bones.

Art. 45.—*Case of Ununited Fracture of the Humerus, treated successfully by Operation.* By Hamnett Hill, m.r.c.s.l.

(*British American Journal of Medical Science*, April 1849.)

Alexander Lackie, æt. 16, met with the following injury on the 28th October, 1847:—He was engaged chopping, in company with two or three other young men, when by some misfortune he was struck by the limb of a falling tree on the right arm, which fractured the humerus about three or four inches above the elbow-joint; the integuments were a good deal contused, but no laceration or wound took place. The nearest professional assistance was at a distance of eight miles from the residence of the patient, so that it was about six hours before the medical man arrived, who set the arm, putting it up in the usual way, with four splints, and supporting it with a sling; the arm was

then allowed to remain without any further attendance on the part of the surgeon for the space of five weeks, at the expiration of which time the splints were removed for the first time. After having been re-applied, and another five or six weeks having elapsed, the patient's mother took them off; and the discovery was then made that no union whatever had taken place, nor was there the slightest attempt to produce any. The medical attendant was again sent for; friction was employed, and the limb again done up as before for three weeks; unfortunately, however, no improvement took place in this interval of time. A consultation was now held with another medical man, and friction was again employed for a short time, and subsequently it was resolved to insert a seton, which was kept open for the space of a fortnight without producing any inflammation or benefit whatever. From the appearance of the cicatrices in the skin it does not appear that the seton could have traversed between the bones, but would seem to have been inserted close to the upper extremity of the fracture, which was excessively oblique. From the period of insertion of the seton nothing whatever had been done until the latter end of October, 1848, when he was brought down to Bytown for the benefit of my opinion as to the case.

At that date the appearance of the arm was almost natural, with the exception of its having become much smaller than the left, from muscular wasting consequent on the entire want of use for the preceding twelve months. The outline indeed from the point of the acromion to the elbow was perfectly straight, whilst the limb was allowed to hang to the side, but immediately he was desired to make any effort to bend the arm or lift it, then the angular projections of the separated humerus were evident to the eye, and on examination, it was found to possess all the liberty of motion of an enarthrodial articulation; in short, what is commonly called a false joint had been formed. The original course of the fracture was easily discernible, and found to have extended from nearly the middle of the humerus on its anterior surface, proceeding downwards and backwards at about an angle of twenty degrees or so, with the axis of the bone. The ends of the separated portion seemed somewhat rounded and smooth, but their middle parts seemed to be connected in some way or other by a kind of semi-cartilaginous or ligamentous growth; nothing, however, like callus had been deposited, and the edges of the bones appeared as perfectly defined as if they had been but recently separated by the saw. In examining the limb even roughly, no pain whatever was excited, but it was perfectly useless, and had of course been so since the receipt of the injury.

After having consulted with Dr. A. Morson and Dr. Laing, Assistant Staff Surgeon, it was our unanimous opinion that it was a favorable case for cutting down on the fracture and giving two new surfaces to the bone; accordingly, on the 1st of last November, I performed the following operation in company with those gentlemen.

Having previously placed him on a chair in the upright position, the operation was commenced by making an incision of about four and a half inches long in the axis of the arm, beginning just below the insertion of the deltoid muscle on the outside of the arm, and continuing it nearly to within an inch and a half of the external condyle, in a line cor-

responding with the junction of the edge of the brachialis internus and triceps muscles. This free incision carried down to the bone, enabled this structure to be fully exposed, both ends of which were then carefully dissected out from their muscular attachments, keeping the scalpel very close to the bones on the inner side to guard against injury to the brachial vessels. When a sufficient amount of separation was effected to evert the ends of the fractured humerus from the surrounding muscular structure, a piece of sheet tin was placed between the inner side of the fracture and the brachial vessels to protect them from injury during the operation of the saw, which was now called into use, and a very thin lamina of the smoothened surfaces of each portion of the humerus was thus excised, just enough to expose perfect bony surface. The semi-cartilaginous growth that had connected the two portions of bone was also removed, lest it might endanger the approximation of the new surface. The edges of the wound were brought together by a few sutures, and the arm flexed at the elbow, was then done up in a pasteboard apparatus that had been previously adapted. There was very little hemorrhage, and although he was able to converse during the operation, which lasted fifteen minutes, and even declared afterwards that he felt the pain, it was very evident that such was not the case, from the entire absence of any tremor, contractile effort, or other indication of suffering. On the second day after the operation, so much inflammatory action came on, that it became requisite to remove the pasteboard and substitute three splints, leaving the wound exposed, so that evaporating lotions might be applied to the arm, the patient being confined to the bed. This plan of treatment was successful in arresting the further progress of inflammation, but the attendant swelling was hardly reduced until a month after the operation, consequently it rendered the efficient application of splints perfectly impossible until about the beginning of the fifth week. In addition to these measures, advantage was also taken of the previous hint afforded of the possibility of his constitution not being disposed to deposit lime, and therefore to assist nature as much as possible in the process of union, he was ordered to take a teaspoonful of the concentrated solution of muriate of lime three times a day, together with nourishing diet and beer. Under this treatment his general health improved very rapidly, and at the end of the sixth week it became evident that the process of union had commenced. From this period the splints were kept very closely applied, so that it was impossible the least motion could have extended to the fracture; and at the end of the tenth week union was complete. There is no deformity whatever, except in a little shortening, and that only to the extent of half an inch, which can hardly interfere with any motion or power in the arm.

Art. 46.—*On the Treatment of Fractures of the Tibia.*

By W. Allison, M.R.C.S.E.

(*Prov. Med. and Surg. Jour.* July 11, 1849.)

On all occasions much care is requisite in preparing the bed before the patient is placed upon it. Having procured a board nine or ten

inches broad, and long enough to reach from the middle of the thigh (or if the leg requires raising, from the ham,) to some distance beyond the frame of the bed-stock, it has been pushed under the bed, and the feathers have been pushed beyond each side of the board, until the bed was no thicker than one or two inches, in order that the ends of pieces of strong tape might be sewn firmly to the bed, along the line over which the rollers are to be placed, at such distances from each other as to admit of their being tied, from the outer side of the rollers, a little below the knee, over the centre of the leg, and just above the ankle. In sewing the ends of the tapes, a long needle has been pushed from underneath the bed, through it and through the tape upon it. On some occasions, tapes have been fixed for tying above the knee also (over the thigh), especially when there has been much spasm of the muscles; when the patient has had disturbed sleep, or has been naturally irritable, and very restless.

During the time occupied in preparing the bed, two sheets have been rolled up tightly, long enough to reach from above the knee to so far beyond the end of the foot, as to admit of being sewed together, including a half brick, folded in calico, at the end of the heel, for the purpose of afterwards admitting a pile of covered bricks, for a foot-support. The rolled sheets have been rolled from each side of a piece of calico, about a yard broad, and the same length as the rolls, towards the centre of it, until they would just include a narrow pillow, placed upon padding above and below where the calf of the leg is to rest, so as *to avoid pressure on the heel*, and after the leg has been placed upon the pillow, having the feathers pushed from the centre, and defended by oiled silk, and three or four thicknesses of calico, folded lint has been placed upon the tibia, both above and below the fractured part, so as to keep off pressure from a splint placed along the bone, upon which the tapes are to be tied. Sometimes two tapes have been tied round the pillow and leg, the one above, and the other below, the calf, before tying the rollers; the rollers then have been rolled completely up to the pillow in which the leg was enveloped, and have been tied there with the three tapes on each side, over the splint.

If the patient be a poor man, having a bed only (without a mattress), supported by cords, the board should not reach higher under the bed than the ham, because the hips will sink down into a hollow, and the board, with the thigh, will form a double-inclined plane. The contrivances, of course, will be varied according to circumstances, whether any side splints be needful within the rolls, or any elevation of the foot above the knee, when the leg is much swollen.

In cases of compound fracture, the limb has been placed in the most convenient position for exposing the wound, whether the patient has been upon his back, with the leg straight, upon his side, with the knee bent, or half-way between the two positions. If on the side, the front roll, of course, has reached from the knee to the instep only.

The wound has been covered with doubled lint, a little bloody; over it a larger piece of doubled lint, soaked with the compound tincture of benzoin, and over that a piece still larger, soaked, so as to seal up the wound air-tight. If the leg be easy, and the lint free from any bad smell, the lint may remain ten or eleven days undisturbed; if uneasi-

ness or offensive effluvium indicates the necessity of removing the lint sooner, the wound will show whether a poultice or any other application be desirable. The foregoing was the practice adopted in the Sheffield General Infirmary upwards of a quarter of a century ago.

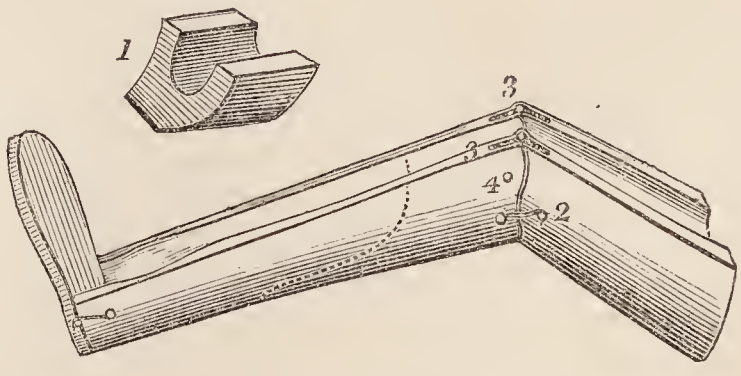
Art. 47.—*A new Double Incline for Fractures.* By S. Gibbons, Esq., m.r.c.s.

(*Medical Times*, March 3, 1849.)

The author calls attention to an improvement he has made in the double incline for compound fractures of the leg.

He considers that the machine known as Liston's, though in general use, is too complex. He has had several opportunities of using it, and has been long satisfied that it is imperfect. The great objection to it is, that there is often more or less inflammation and sloughing produced in the *popliteal space, and particularly about the ankle.* The foot-board has too free motion, and cannot be fastened by the screw without bringing the sides so near together as to cause pressure about the ankle, and is often left, therefore, too loose. Another objection, in the author's view, is, that the leg is put in an unnatural and uncomfortable elevation. There appears to me as great a chance of curing the fracture close to the bed, as if the leg were elevated half a yard. A third objection is, its expense.

The instrument he has contrived, and which costs ten shillings only for the make, consists of wood. A drawing will make the description better understood.



The machine is cut out of a solid piece of wood. The parts in which the thigh and leg rest are hollowed out, in accordance with their shape. There are depressions for the heel and calf; notches in the sides for the ankle-bones, and light elevations just above the heel and at the bend of the leg. The foot-board is placed in accordance with the angle of the foot when in the recumbent posture, and may be let down on raising the hook. It is connected by a hinge underneath. The dotted line shows where the leg-piece is separated for inserting a piece, 1, in case the machine is wanted for a longer leg than ordinary. These pieces are fastened with four screws underneath. If the hook 2 be raised, the machine may be flattened; 3, 3, are hinges; 4 is an eye in which the hook may be placed, in case so great an angle as that

represented in the figure is not required. The same provision is made with respect to the foot-board.

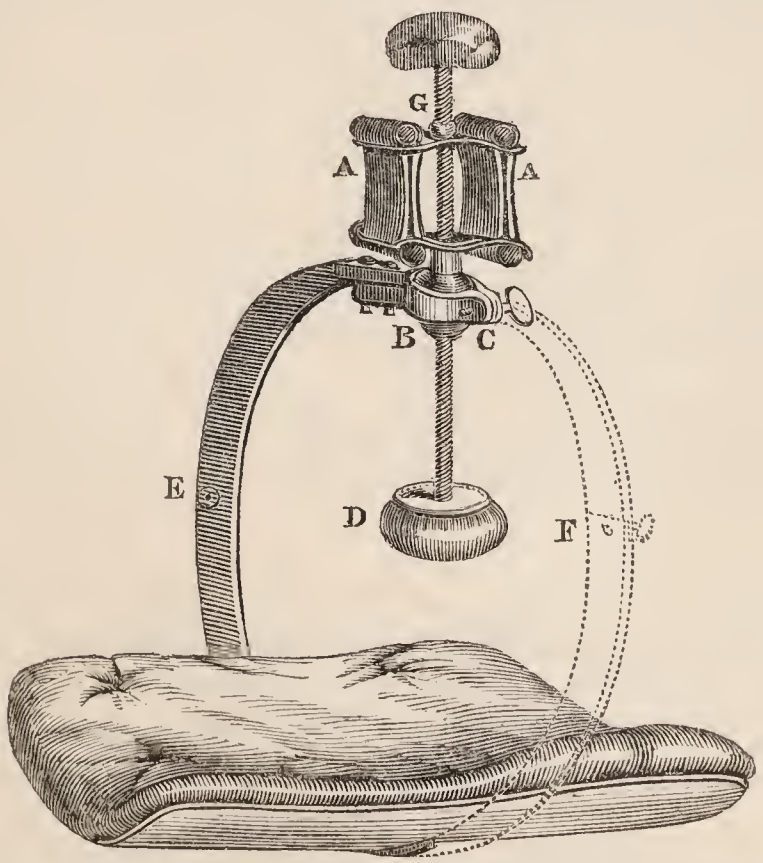
Should any one desire to make a machine, he had better lie on his back, and put his leg in the position in which it ought to be placed when fractured; then let the axis of that position be taken, and the carpenter will perform his work with more satisfaction. The machine must be made to suit either leg. Care must be taken in cutting the ends at which the leg and thigh pieces are joined, as represented.

A leg may be placed in this simple machine, when it will be perfectly secure and comfortable to the patient. The author has given it the name of the box double incline.

Art. 48.—*New Instrument for the Treatment of Aneurism by Compression.* By Dr. Carte.

(*Dublin Medical Press*, May 16, 1849.)

This instrument, says Dr. Carte, in a communication to the Surgical Society of Ireland, differs from all others hitherto employed, in that the compressing medium is an *elastic* instead of an *unyielding* force.



A, A. Vulcanized India-rubber straps held *in situ* by ivory pins in the upper and lower stage. B. Ball and socket-joint traversed freely by the long male screw terminating in the pad D for compressing the vessel. C. Pinching screw for fixing the ball in its socket. D. Pad for pressing upon the vessel. E. Hinge allowing the framework of the instrument to open for its more ready application (if made in the form of the ring tourniquet). F. Hasp to fasten the instrument, if made in the form of a ring. G. Upper or moveable stage with female screw in its centre. This is the *point d'appui* against which the long screw in connexion with the pad works, and when the instrument is applied, by advancing this screw the elastic force of the vulcanized India-rubber is brought into operation.

It may be adapted to all cases of aneurism occurring in the extremities where compression can be employed; and from the trials already made, I have every expectation that it will meet with the general approbation of the profession.

The shape of the framework of the instrument is immaterial, as far as regards the adaptation of the compressing force; it may either be in the form of the ordinary clamp (as represented in the accompanying sketch), or in that of the ring tourniquet (as indicated by the dotted line). The latter I consider to be the best, as it is less liable to slip when once placed upon the limb. The following is a brief description of the instrument:—To one side of the framework is attached a well-padded splint, and to the opposite side a ball and socket, or universal joint, which allows the compressing force to be applied in any direction required. Through the centre of the ball (but sliding freely in it) runs a screw about six or seven inches long, the lower end of which is terminated by a pad for compressing the artery, whilst its upper end is flattened into a handle for the purpose of turning the screw. Half an inch above the ball, but immovably attached to it, is a small iron stage; above this, again, is a corresponding *moveable* one, having in its centre the worm of a female screw (marked G in the sketch), through which passes the long male screw bearing the pad. These two stages are united at their edges by two bands of vulcanized India-rubber, in such a way that when the instrument is applied to a limb, the upper or moveable stage (through the medium of the female screw in its centre) becomes a *point d'appui*, against which the elastic force of the vulcanized India-rubber acts; and by advancing the male screw, as the upper stage is raised, a corresponding tension is thrown upon the elastic material. The exact amount of force required for controlling the circulation through the vessel can thus with the utmost nicety be applied, and at the same time the tension can be relieved by simply reversing the action of the screw. This principle may be modified in various ways: for instance, a rackwork, similar to that of the patent corkscrew, might be substituted for the male and female screw.

ART. 49.—*On the Separate and Combined Action of Cold Douches, and Movements gradually forced in the Treatment of Incomplete Ankylosis.* By M. le Docteur L. FLEURY, Assistant to the Faculty of Medicine, Paris.

(*Acad. des Sciences*, 10 Juillet, 1848; *Archives Générales*, 4 série, t. xvii, 1848; *Edinburgh Med. and Surg. Journal*, July 1849.)

"The name of *Ankylosis*," says Boyer, "is given to that condition of a diarthrodial articulation, in which the movements of the bones composing the joint are entirely abolished or very much confined, whether the member be in a state of flexion or of extension. Ankylosis is distinguished into true or complete, and false or incomplete. In true ankylosis, the bones are so united and agglutinated together, that they form one single piece, so that the motions of the joints are absolutely abolished for ever. In false ankylosis, the bones are not agglutinated; they have a certain degree of mobility; and the movements

of the articulation may be reestablished, when the cause by which they were prevented no longer exists."*

This mode of defining, distinguishing, and considering ankylosis is controverted by M. P. Boyer. This surgeon defines ankylosis to be "the fusion or the agglutination of the bones forming a moveable joint, causing complete and permanent impossibility of the movements of the articulation." The disease described under the name of false *ankylosis* is not ankylosis, he asserts; the surgeon is thus made to place together lesions very dissimilar,—lesions which it is important not to confound, and which ought to be studied separately as affections which simulate ankylosis. Under this title M. Boyer enumerates inflammation of the articulations, white swellings, luxations, fractures, muscular contractions, firm cartilaginous cicatrices, and tumours of different characters situate near the articulations.

This new manner of considering ankylosis appears to M. Fleury to be too absolute, and therefore dangerous in a clinical point of view. It is further not strictly correct in an anatomico-pathological sense, on which it professes to be founded.

Can the surgeon, he asks, in all cases be sure of the nature and seat of the changes which impede the free movements of a joint? The complete absence of movements does not prove the existence of true ankylosis. It is uniformly possible to distinguish the simple adhesion of articular surfaces from the agglutinations or fusion. The lesions accompanying ankylosis are often complex; they are at the same time extra-articular and intra-articular; they include the muscles, the ligaments, the synovial membranes, and often the bones.

Ankylosis, viewed in itself, is, Sanson observes, not so properly a disease as the effect of a series of other affections; and it may succeed all those which destroy any one of the conditions, without which an articulation cannot be moved.

This definition M. Fleury thinks quite correct. It shows that the term ankylosis belongs to surgical semeiology; and ought there to retain its place on the same ground on which the terms delirium, vomiting, &c., belong to medical nosology. We must not, however, thence conclude, that, in the case of ankylosis, it is unnecessary to investigate the cause, the particular lesion which impedes the free motions of the articulation. Further, if the exact cause of ankylosis eludes observation, or if, after recognising and overcoming it, the constraint of the movements continues, he ought, in that case, to view the ankylosis by itself, and attempt special treatment of it; in short, to treat it as a symptom.

Numerous facts show that, in thus proceeding, it is possible to cure completely cases of ankylosis, regarded as previously incurable by the most eminent surgeons. The diagnosis has been weakened by the treatment; as this has proved that, instead of being caused by agglution and fusion of the articular surfaces, the abolition of the motions was caused only by simple adhesion of these surfaces, an alteration in

* Traité des Maladies Chirurgicales, et des Opérations qui leur conviennent; par M. le Baron Boyer. Tome Quatrième. Seconde Edition. Chapitre xxi, p. 553. Paris, 1818.

the synovial membranes, in the capsules and ligaments, in the muscles or bones.

He then considers the curative means for removing incomplete ankylosis considered in itself.

Most surgeons allow that, for curing incomplete ankylosis, art is often impotent, and this in the direct ratio of the duration of its existence. "It is impossible to expect any satisfactory result," says M. Bonnet, "unless when the articular surfaces retain nearly their normal figure, when they are covered by a layer of fibrous tissue of new formation, smooth, and allowing an easy gliding motion, and when the adhesions within and without the articulations depend only on cellular or fibrous tissue, possessing a certain degree of extensibility. It must nevertheless be observed, that, even in these favorable cases, imperfect results only are obtained."

Emollient applications, douches with thermal waters, vapour-baths, mentioned by all authors, are adjuvants of limited efficiency.

Artificial graduated movements, effected either by the hands of the surgeon or by the aid of machines or apparatus, constitute a therapeutic method which presents some chances of success; and M. Malgaigne is known to have obtained prosperous results from this means. It must be admitted, however, that this treatment is often impracticable or inadequate.

Its impracticability is felt on various occasions. Several patients cannot endure the forced movements, in consequence of the severe pains which they cause, whatever be, in other respects, the care, prudence, and moderation with which the surgeon conducts them. In other instances, movements the most limited induce intense inflammatory symptoms, which returning on every attempt, end in becoming an insurmountable obstacle to their employment. These results the author observed in the case of a young girl, for whom he had requested the assistance of M. Malgaigne; and they were also induced in the case of two patients whose history is given in the essay.

The inadequacy of the method by artificial graduated movements is not less certainly proved. These forced movements operate principally as mechanical means of extension. Their action on the lesions which have taken place in the synovial membranes, the capsules, the ligaments, and muscles, is only indirect and inconsiderable. They modify neither with sufficient promptitude nor energy, the capillary circulation, nutrition, the absorption of composition, and decomposition. They do not completely recall the synovia to the joint,—pliancy and elasticity to the fibrous tissues. They do not sufficiently arouse the enfeebled or extinct contractility of the muscles. When forced movements are exclusively employed, the duration of the treatment is always very long, and often, as observed by M. Bonnet, only imperfect results are obtained.

Several patients affected with ankylosis having presented themselves at the hydro-therapeutic establishment of Bellevue, M. Fleury thought that cold douches might be serviceable; and the results obtained by the separate action of these, or by that combined with forced movements, are given in the present memoir.

M. Bonnet has made no use of these cold douches in the treatment of

ankylosis; and the method is not mentioned in the works of Scoutetten, Schedel, Engel, Baldon, Lubansky, &c.

M. Fleury fulfils, he conceives, two principal and different indications by means of these douches.

1. By employing cold water as an exciting agent of the capillary circulation, he proposed to reestablish the secretion of synovia, to act on organic absorption and nutrition, so as to restore to the fibrous tissues their pliancy and elasticity, to the atrophied and more or less paralysed muscles their bulk and their contractility, and in short to restore to their normal conditions the soft and osseous parts.

2. By employing cold water as a sedative agent, M. Fleury was desirous to render practicable or less painful the necessary artificial movements, and to reduce, to the smallest possible rate, the irritation more or less intense which they uniformly induce.

Four cases are given, and the memoir terminates with the following inferences, deduced from the facts stated:

1. *In certain instances of incomplete ankylosis, against which forced movements are useless or hurtful, the preference ought to be given to exciting cold douches above all therapeutic agents known, as they exert a very favorable influence in rendering active the capillary circulation and organic absorption, in modifying the vitality of the tissues, and in thereby restoring the extra-articular and intra-articular tissues to their physiological conditions.*

2. *In the instances of incomplete ankylosis which imperatively demand the employment of forced movements, but in which these movements are impracticable by reason of pain or articular irritation, and the phenomena of general reaction to which they give rise, cold sedative douches, better and more speedily than any other therapeutic agent known, cause the disappearance of these symptoms, and permit the surgeon to have recourse to gradual movements.*

3. *In instances of incomplete ankylosis which demand the employment of forced movements, and in which these are practicable, a cure is effected always more promptly, and sometimes more completely, by combining the action of exciting cold douches with that of graduated movements.*

Art. 50.—*On Amputation at the Ankle-joint by Internal Lateral Flap.* By Dr. R. J. Mackenzie, Assistant-Surgeon to the Royal Infirmary, Edinburgh.

(*Monthly Journal*, August 1849.)

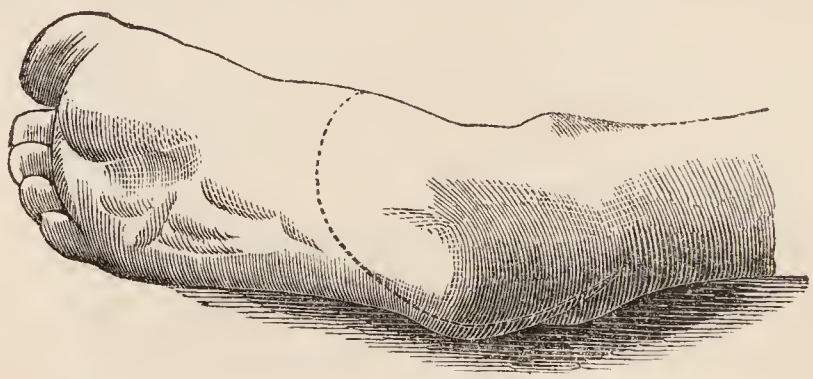
Numerous objections have been brought forward against the tibio-tarsal or ankle-joint amputation, as proposed by Mr. Syme in 1842. But, I believe, the chief obstacle to its general adoption, has been the difficulty of performing the operation. This objection has now, in a great measure, been removed. It is no longer found necessary to carry the incision across the sole so far forwards as at first practised by Mr. Syme. The dissection of the integuments from the os calcis is thus rendered much more easy, and the risk of endangering the vitality of the flap by injuring the vessels at its base is in a great measure avoided. The operation, as at first performed by Mr. Syme,

was tedious and difficult, and I believe that the stretching required in separating the long flap from around the os calcis occasionally proved injurious to the vitality of the flap.

With a view of facilitating the performance of the operation, and, at the same time, of preserving the thick integuments of the heel without incurring the danger of injuring the posterior tibial artery, either by the point of the knife or by undue violence in separating the flap, I proposed the operation, which I am now about to describe. These objects, I conceive, have since been attained by the modification which Mr. Syme has made in his own operation, and I believe that the incisions now recommended and practised by Mr. Syme, will, in the majority of cases, be found best calculated to ensure the formation of a good and useful stump.

I am induced, however, to direct attention to the following mode of operating, from the fact that, in some cases, it appears to me to possess advantages over the other operation; whilst, occasionally, cases may occur where the integuments of the heel may be saved to form a covering for the ends of the bones, only by the following incisions:

On the right foot.—The body reclining on the right side, and the foot and ankle projecting beyond the table with their internal aspect upwards, the point of the knife is entered in the mesial line of the posterior aspect of the ankle, on a level with the articulation, carried downwards obliquely across the tendo achillis towards the external



border of the plantar aspect of the heel, along which it is continued in a semilunar direction. The incision is then curved across the sole of the foot, and terminates on the inner side of the tendon of the tibialis anticus, about an inch in front of the inner malleolus.

The second incision is carried across the outer aspect of the ankle in a semilunar direction, between the extremities of the first incisions, the convexity of the incision downwards, and passing half an inch below the external malleolus.

The flap is now dissected up, care being taken that the knife cuts close on the bones, so as to preserve the whole thickness of the soft parts. By holding the base of the flap between the fingers and thumb, as it is detached from the bones, all risk of wounding the artery at this stage is avoided. The foot is then severed at the articulation, and the ends of the tibia and fibula cleared so as to allow of the application of the saw, by which a thin slice of the extremities of these bones is removed, as in Mr. Syme's operation.

This operation is very easily and rapidly performed, and, with a very moderate amount of care on the part of the operator, the artery runs no risk of being injured. It is in clearing the ends of the tibia and fibula for the application of the saw in this, as well as in Mr. Syme's operation, that the artery is, I believe, in the greatest danger of being wounded. It is avoided by cutting close on the bones, a point to be attended to during the whole dissection in either operation.

The operation on the left foot is the same, but, as the patient reclines on the left side, the order of incision is reversed, the knife being first entered at the point above indicated, in front of the inner malleolus.

M. Sedillot, of Strasbourg, has since recommended a similar method of performing the operation. The incisions made by M. Sedillot scarcely differ at all from those I have recommended; but their order is reversed, the first incision being made on the fibular aspect of the foot, the articulation opened, and the flap cut from within outwards.

I have amputated in the manner I have described in two cases of disease of the tarsus, and my colleague, Dr. Douglas Maclagan, has performed the same operation three times. The results of the cases have ultimately proved satisfactory, although in one the cure proved tedious from the long continuance of sinuses around the stump, and in another gangrene of part of the flap took place, from the posterior tibial artery having been accidentally divided in clearing the ends of the tibia and fibula. In both, however, a satisfactory result was ultimately obtained.

The stump which is left differs from that formed by Mr. Syme's operation only in the situation of the cicatrix, which is here on the fibular side of the stump. With an artificial foot, the patients are able to walk with ease, and but slightly perceptible lameness, the weight of the body resting on the face of the stump.

It has been objected to the operation by internal lateral flap, that the vitality of the flap is endangered from the external lateral vascular connexions (viz. the terminal ramifications of the external malleolar and

interosseal branches of the peroneal artery) being divided. I feel satisfied that no apprehensions need be entertained on the ground of a deficiency of vascular supply. Numerous branches of the posterior tibial artery, of considerable size, are distributed in the substance of the flap, usually requiring the application of seven or eight ligatures at the time of the operation.

The cases in which, I think, this operation may with advantage be substituted for Mr. Syme's method, are—1st, those in which the integuments on the outer side of the ankle are in an unsound state either from disease or injury; 2d, in elderly persons, whose arteries are not well suited to bear with impunity the stretching, which occasionally occurs in separating the integuments from around a projecting heel; lastly, it may, from the ease with which it is performed, be preferred by those who have not the frequent opportunities of operating on the dead body, which are requisite for enabling them to perform the other operation with facility.

ART. 51.—*Loose Cartilages in the Elbow-joint removed successfully.* By SAMUEL SOLLY, F.R.S., Senior Assistant-Surgeon at St. Thomas's Hospital. To which is added a Microscopical Examination of these Bodies. By GEORGE RAINEY, Demonstrator of Anatomy.

(*Monthly Journal of Medical Science*, May 1849.)

John Moore, æt. 49, a river pilot, of healthy appearance and regular habits, came under my care as an out-patient at St. Thomas's Hospital, in the month of August 1848. He complained of stiffness and pain in the left elbow-joint, which was much swollen, and presented the general character of disease of articular cartilages. As I found that after about a month's attendance as an out-patient very little improvement had taken place in the joint, I recommended his coming into the hospital, explaining to him that entire rest to the joint and careful treatment could alone save the limb.

He was admitted under my care on the 12th of September, 1848, and his condition was thus described on admission :—" The left elbow is considerably swollen and very stiff; he is quite unable to bend it, and the slightest motion gives him great pain."

Treatment.—A seton was run through the skin on the inner side of the arm, just above the elbow. Iodine with iodide of potassium was administered, and he had three grains of acetous extract of colchicum, with Dover's powder at bedtime. On the 25th a blister was applied to the joint. The above treatment was persisted in till the 10th of November, without benefit; mercurials were then had resort to, and the bowels being irritated by calomel, I prescribed five grains of gray powder every night. This produced slight salivation in about three weeks, at the end of which time the appearance of the joint was completely altered. Instead of a nearly uniform swelling over its whole surface, I found on one of my visits, to my great surprise, that there was a small circumscribed swelling above, and continuing a little behind the inner condyle. This appeared to be a sac, and I could feel that it contained several loose hard bodies, very

moveable, and conveying a very peculiar crackling sensation to the touch. The general tenderness is gone, and the examination of this part gives him no pain; but moving the joint causes him considerable pain, and its mobility is very much interfered with. He says that the little bodies slip about under the skin, and click against each other.

He now states that he first noticed a small lump in this situation last January; it was not painful, and did not interfere with the use of his elbow, but after a little while it became larger and very painful. He says that he was attacked with slight rheumatism about three years ago, but that it went away without medical advice. In June last he was again attacked with severe rheumatism, when he was admitted at this hospital under Dr. Goolden, and his disease is described in the ward-book as follows:—"Inflammation of the left elbow-joint, connected with mercurial periostitis. There is considerable swelling of the left arm from the elbow to the wrist, throbbing especially at night, and the whole forearm is œdematous. It commenced with a small swelling, about the size of a nut, at the olecranon." The treatment consisted in the withdrawal of blood by means of leeches, in the administration of iodide of potassium in the compound decoction of sarsaparilla, and in the application of iodine ointment to the joint.

On the 7th of July he was removed into one of the surgical wards, and placed under Mr. Le Gros Clark, whose treatment also consisted in the administration of iodide of potassium in the compound decoction of sarsaparilla. After a month he left the house, and he then came under my care as an out-patient.

After the discovery of these bodies, I began to consider how far it would be safe to remove them. I could not ascertain distinctly whether the sac in which they were contained communicated with the joint; the manipulatory examination did not give me that impression, though from the history of the case it was most probable that it did. I had a consultation with Mr. Green on the propriety of an operation, and he agreed with me that it was desirable. This point appeared to be quite certain, that these bodies had been, and in all probability would be again, the exciting cause of all the inflammation of the elbow-joint and forearm under which he had been labouring.

I ordered him a dose of rhubarb and calomel, and on the 11th of November, 1848, I operated.

Operation.—I made an incision about one inch in length over the swelling above the inner condyle, dividing the skin, fascia, and synovial membrane, till I exposed the loose cartilages, for such they proved to be. They were easily pressed out of the opening. I introduced my little finger into the sac, and felt the articulating surfaces of the humerus and radius, and I thought I felt an irregular surface on the ridge between the radius and ulna, like an attached portion of false cartilage, but there were no more loose bodies in the joint. Those removed were eight in number. I brought the edges of the wound into close apposition, put one suture in through the skin, and the isinglass plaster over it. I placed a pasteboard splint on the back of the joint, fixing it to the upper and forearm, so as to prevent the slightest motion in the joint. The wound was quite healed in forty-eight hours, but I kept the joint at rest for a week; after this he was

able to move it without the slightest pain—indeed, he did not suffer in any way after the operation, except for the confinement occasioned by the splint. I have seen him repeatedly since he left the hospital, and he has remained quite well and resumed his occupation on the river.

I submitted these bodies to the examination of Mr. Rainey, and to him I am indebted for the following excellent description of their structure and mode of development:

"These bodies," says Mr. Rainey, "have a distinct investing membrane, which on its external surface is smooth, but by its internal one is so intimately connected to the body itself, as to admit of being detached only in small shreds. This membrane is composed of fibro-cellular tissue, mixed with granular matter.

"Their internal structure, as exhibited by a section through the middle, is seen by the naked eye to consist of two distinct substances, one being semi-transparent, like fibro-cartilage, the other being perfectly opaque and white, like bone. The former, under the microscope, presents the appearance usually seen in fibro-cartilage. The latter resembles remarkably in its ultimate structure those bones which consist of only one bony plate placed between two folds of membrane, as the thin plates of the ethnoid bone in the nose. In these bones the lacunæ, as in the opaque parts of the body before mentioned, are the same as in other bones, but there are no distinct or well-formed canaliculæ branching out from them. There is in both a stellate arrangement of the earthy matter around the lacunæ, but nothing like canaliculæ; and this appearance is more striking in the bones alluded to, than in the earthy part of these bodies.

"I believe no satisfactory explanation has yet been given of the manner in which these loose bodies are formed in joints, although I think their origin, and the circumstance of their becoming loose in a joint will appear obvious, by a reference to the remarkable character of the epithelium in joints, in the thecæ of tendons, and in mucous bursæ. This epithelium was described by me in a paper communicated to the Royal Society by Mr. Simon about three years since, but which has not been published. A few general observations upon this structure will suffice. It is situated in those parts of a joint, theca, or bursa, where it is least exposed to pressure. It consists of loops and convolutions of capillaries of various degrees of complexity, proceeding from the surrounding vessels, and projecting into the synovial cavity. These capillaries are inclosed in sacculi of basement-membrane, studded with minute oval cellules; from the sacculi inclosing the capillaries numerous other sacculi, into which no capillaries enter, proceed: these are of various forms and sizes, but generally they are attached to the primitive sacculus by an extremely long and slender filament of fibrous tissue, resembling the petiole of a leaf, the secondary sacculi being its expansion. Sometimes there are several series of these sacculi attached, one series to another, exhibiting an arborescent appearance, but in every instance the secondary sacculi are extra-vascular.

"I have found this kind of secretory apparatus in all the joints, as for instance the finger-joints, the knee, shoulder, &c. Now this being

the apparatus by which synovia is elaborated in all parts in which this fluid is found, and the bodies just described being found in these situations, they may be inferred to be the product of disease in these structures; the cellules of these fringes, in the place of elaborating synovia from the blood, producing, under the influence of morbid action, other products, such as cartilage, which becomes converted into imperfectly-formed bone. The fact of the secondary sacculi being connected to the primary by extremely slender pedunculi, will suffice to explain the reason why these bodies may become formed in the first instance, the pedicle serving both to keep them attached, and to convey the material from the blood necessary for their development, until they acquire a certain size; but afterwards, from its tenuity, becoming no longer capable of holding them, it breaks, and the bodies become loose, and most probably cease to enlarge."

ART. 52.—*Two Cases of Strangulated Hernia successfully treated by Mr. Gay's Operation.* By H. H. BROUGHTON, Esq., and P. L. BURCHELL, Esq.

(*Lancet*, May 5 and June 30, 1849.)

[In our last Report on Surgery, Vol. IX, p. 309, we gave an analysis of Mr. Gay's views on the subject of hernia, and of his method of operating. It will be observed that in the following cases Mr. Gay's plan was successfully adopted.]

CASE I.—Mrs. B——, of Wigley Mill, æt. 56, on Thursday, the 28th of December last, whilst lifting some coals, felt something snap in the left groin. On examining it, she found a small, hard tumour, not then very painful. It gradually became more painful and tender, and she says gradually increased in size. On Thursday her bowels were moved, and again on Sunday slightly. She vomited the whole day on Sunday.

I was called on Sunday evening, at six p.m. She complained of great tenderness over the whole of the abdomen; her pulse small and wiry; countenance most anxious and pinched. I tried the taxis for a quarter of an hour; but, from the tenderness, I was obliged to desist. I then proposed the operation, to which she in a short time consented. I proceeded home to prepare, and returned as soon as possible, with the assistance of my friend Dr. W. Garstang. Having seen Mr. Gay's book on Femoral Hernia, I determined to try that operation; but from not having a bistoury caché, I was obliged to modify it, so as to use a straight director. I commenced by making an incision obliquely downwards and inwards over the neck of the tumour, about an inch long, dissected carefully down, and soon came to the neck of the sac. Having divided the cribriform fascia on the director, I passed the director, on the inner side of the sac, through the stricture, and divided it inwards. This at once relieved the intestine.

I examined the sac, and it appeared so dark-coloured, that I made a small opening into it, to examine the state of the intestine: it was of a dark-chocolate colour. I returned it at once, closed the wound with

suture and plaster, upon which I placed wet lint, gave her an opiate, and left her, to use her own words, "quite comfortable," at 8 o'clock.

Monday, Jan. 1st.—She complains of pain in the abdomen. Ordered fomentations, and a saline.—Tuesday evening gave her a dose of castor oil. She has gradually progressed, and sat up on Sunday last. She is now convalescent.

I consider Mr. Gay has added much to the relief of the operation for hernia, rendering it more simple and less dangerous, and had I had a guarded bistoury, I should have implicitly followed his directions.

Case II.—Elizabeth C——, of Carter's rents, Cooper's gardens, Hackney road, æt. 69, a charwoman, not overburdened with adipose tissue; a widow for the last twenty years, and the mother of ten children; had enjoyed a good state of health till, during some extra exertion, about eight years ago, a femoral rupture was produced on the left side. Since that period she has occasionally been much troubled by the protrusion, although it has always been reducible by her own efforts, with more or less difficulty. Bowels usually regular; habits temperate.

After a descent of the hernia on the afternoon of September 21, 1848, she was seized, at six o'clock the following morning, with violent pain in the region of the navel, extending down the left side of the abdomen to the seat of the tumour, which she observed to be larger on this than on any previous occasion. Vomiting soon came on, and I was sent for; I saw her about nine o'clock, and found a femoral hernia, of the size of a pullet's egg, on the upper and anterior part of the left thigh, exceedingly tender to the touch, as was also the abdomen in its vicinity, and slightly tympanitic. Her pulse was quick and wiry; countenance anxious; skin hot, and dry; she vomited stercoraceous matter almost incessantly, the bowels not having been relieved since the previous evening. She complained of feeling very bad and sick, and of pain, chiefly of a dragging kind, around the navel.

As the reduction of the hernia could not be effected by the ordinary means, and the symptoms rapidly became very urgent, I determined to divide the stricture as early as possible, which I did about ten o'clock, with the kind assistance of my friend Mr. Gay, in the presence of Dr. Catherwood, and other gentlemen.

The operation performed in this case was that recommended by Mr. Gay, a most admirable description of which he has since published in his treatise on Femoral Rupture.

My patient being completely under the influence of chloroform, I made an incision, about an inch in length, to the inner side of the tumour, midway between it and the spine of the pubis, its direction being obliquely downwards and inwards, commencing over the inner part of the femoral ring. The superficial fascia having been divided, the finger easily reached the seat of stricture, situated, in this instance, chiefly at the border of Gimbernat's ligament, which, together with a few fibres in front of the neck of the sac, I partially divided with Turner's knife (a concealed bistoury). Slight pressure was now made upon the swelling, and it was completely and easily reduced. The lips of the wound were brought together, and dressed in the ordinary way.

Scarcely a drop of blood was lost. The patient had been perfectly unconscious of pain. The bowels acted three times during the day, without medicine; the wound healed kindly in forty-eight hours; and she recovered without any bad symptoms. A small abscess, however, formed a few days after the operation, in the vicinity of the incision (arising, I believe, from the want of cleanliness and attention on the part of the nurse), which on being opened, discharged itself and healed. My patient remains quite well at the present time.

Art. 53.—*On the Treatment of Internal Strangulation of the Intestines by Strychnine.* By Dr. Homollé.

(*L'Union Médicale*, 1848, Nos. 138-9; *British and Foreign Medical Review*, April 1849; *Prov. Med. and Surg. Journ.* May 30, 1849.)

In this communication Dr. Homolle relates three cases in which he found very minute doses of strychnine (1 milligramme), repeated every hour, completely efficacious, after various other means had been tried in vain in relieving urgent symptoms of internal strangulation, produced in two of the cases by the return of the hernia *en masse*, and in the other by violent vomiting. It was the knowledge he had of the favorable influence which strychnine exerts upon the peristaltic action of the bowels, in constipation from cerebral paralysis, hypochondriasm, &c., that induced him to employ it in the present cases. The borborygmi, the painless sense of vermicular movement, the rapid cessation of the pain and vomiting, and the expulsion first of gas and then of fæces, which resulted from its employment, confirmed the anticipations he had entertained. M. Amussat, who employs the conjoined force of two or more persons for the reduction of hernia, believes that in this way nine tenths may be reduced; but the taxis is, in point of fact, but the substitution of an external constricting force for the insufficient contraction of the walls of the intestine. The alkaloid by increasing defective, or by correcting irregular, peristaltic action, diminishes the volume of the intestine, and expels the detained fæcal matters, or removes invaginations. It is to be recollected that the obstacle in strangulation of the intestine is hardly ever materially insurmountable. So that this means sometimes may, associated with the taxis, even in strangulated hernia, prevent the necessity of resorting to an operation.

Art. 54.—*On the Treatment of Hernia with Opium.* By Butler Lane, m.d., m.r.c.s.e., Ewell.

(*Prov. Med. and Surg. Journal*, May 30, 1849.)

In the 'Provincial Journal' of April 21st, 1847, I published a paper advocating the treatment of hernia with opium, and I now again take an opportunity of adverting to the subject, with the view to urge my professional brethren to give a more general trial to this simple and efficacious mode of treatment. The striking case related by Mr. Mayo, of Winchester, in the Journal of June 16th, 1847, and the editorial reference to other cases successfully treated by the opiate plan, I hoped would have elicited some further communications. Such, how-

ever, has not been the case; but if those who have given the opiate treatment a trial, whether successfully or unsuccessfully, would inform me on the subject, I should be happy to embody the results of their experience for the general advantage.

Since my former communication, the two following cases have occurred to me:—The first was one of inguinal rupture in a young man. On a former occasion, some months previously, I had reduced it with some little trouble; but now, from over-exertion in bell-ringing, it was forced down into the scrotum, and presented the volume of a small orange, firm and elastic to the touch, and affording the usual impulse on coughing. The taxis failed in its reduction, as also did the application of cold. There was then no sickness, and the pulse was quiet. An aperient was given, and the bowels were relieved, but, as I doubted whether action had taken place through the entire course of the alvine canal, it was repeated. The second dose operated three times, and caused much burning, stinging pain in and at the neck of the tumour. It was thus evident that the hernia was incarcerated, but not yet strangulated. The next day the tumour was found the same. An attempt at reduction was again made by myself, and subsequently by my friend Mr. Allan, of Epsom, without success. Towards evening, some symptoms of constitutional irritation became manifest—viz. accelerated pulse, dark-coloured vomiting, with local and general abdominal pain and tenderness. No further action of the bowels had taken place. Opium was now resorted to in grain doses every hour, and by the time the man had taken six doses he was powerfully narcotized. Still the hernia was not returnable, though all pain had disappeared. A castor-oil enema was thrown up the rectum with an œsophagus-tube, but after some time it returned untinged with fæcal matter. The stomach being no longer irritable, it was thought desirable to administer a mild aperient draught, and leave the patient for the night. On an early visit the following morning, all trace of the tumour had disappeared, though how or when the patient was quite unconscious. The bowels were relieved soon after, but so strong was the opiate influence, that I believe the man slept almost incessantly for the next twenty-four hours.

The second case was that of a shepherd, who had strained himself in managing some sheep. On the left side I found an old irreducible and painless inguinal hernia; on the right side was a smaller femoral one, about the bulk of a small egg, which, according to his own account, had not been reduced for a month or two, but was now increased to double its original size by the injury which he had received two hours previously to my seeing him. He had made many ineffectual attempts to reduce the rupture, and I also failed with the taxis. The tumour was tender, painful, and very tense; the entire abdominal surface was also painful, and acutely sensitive to the slightest pressure. There was nausea and retching. Being called away suddenly, I placed two grains of powdered opium, with the same of calomel, on the man's tongue, and left him on his back. On my return, in three quarters of an hour, I found that the hernia had wholly disappeared, and that my patient was quite relieved. He told me that after I had left him about fifteen minutes, he began to feel easier, and experienced a

gurgling and rumbling in the bowels. He then made moderate pressure on the tumour, and it quickly disappeared.

I have also been favoured with the narration of a case which occurred in the practice of Dr. Thorn, of the Harrow road, Paddington, of which that gentleman ascribes the successful issue to the adoption of my recommendation of the *opiate treatment*. It was a case of inguinal hernia, occurring in an old lady, æt. 68, who obstinately refused the application of the taxis and other appropriate means. There was obstinate constipation, which had existed ten days; the vomiting was also stercoraceous; there was hiccough and intermitting pulse. Purgatives and other medicines were useless, and she seemed fast sinking into a state of collapse. Tincture of opium was then resorted to; and half an ounce was given in small and gradually increased doses, at intervals of two hours. With this she rallied, becoming more comfortable and easy, and an enema brought away a quantity of feculent matter, with blood and membranous substance. Pain and sickness still continued, probably from the supervention of inflammatory action; but, with the sanction of Professor Fergusson, the opiate treatment was persisted in, combining calomel with pulvis opii. Sixteen-grain doses of the opium were given, with double the quantity of calomel, at intervals of two hours. Subsequently half an ounce more laudanum was administered, in moderate doses, and a further quantity of opium, with calomel, was rendered necessary by a subsequent attack of enteritis. The patient is now in health, and, as Dr. Thorn emphatically remarks, remains "*a living testimony of the efficacy of opium.*" The case is certainly a remarkable instance of bold and successful practice.

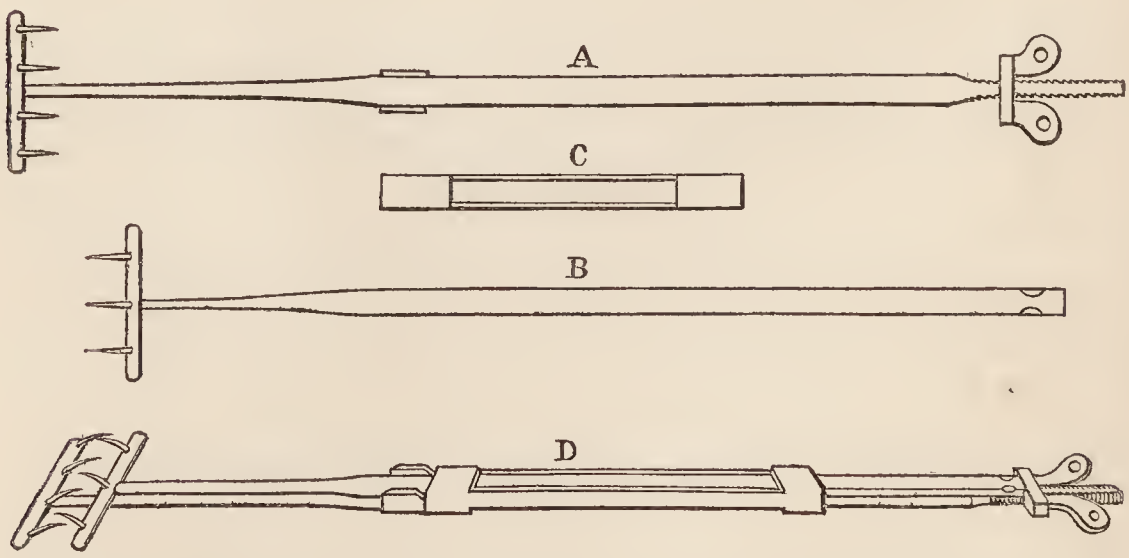
The advantage to be derived from the administration of opium in hernial cases may, I believe, be regarded as twofold. Firstly, in subduing the general and local irritation, it will materially augment the chance of reduction; secondly, should it finally be necessary to resort to the operation, I am confident that the treatment in question will place the patient in the condition most favorable for the performance thereof, more or less anticipating and preventing the constitutional disturbance which would be liable to occur. The partially anæsthetic condition, as we may term it, which is instituted by the administration of opium, is of a decidedly genial character, tending rather to promote than depress the vital powers, a fact well illustrated by Dr. Thorn's case, and which indeed must be familiar to all practical men. In the first of the cases which I narrated in my former paper, the conversion of a state of almost mortal collapse into one of happy inebriety was most striking. It may be made a question, whether there is no risk of masking the acute symptoms of strangulated hernia, and thereby causing the operation to be delayed, to the material diminution of its probable success. Now, to those cases where the operation is obstinately refused, this argument will not apply, inasmuch as the opiate treatment may be regarded as a compulsory alternative; and I feel convinced that as a general rule, even in other cases, where an operation would readily be submitted to, no advantage would be lost by giving the opiate treatment a due trial. A greater delay than it would require, is often at present accorded, without even a rational

prospect of relief, and without the constitutional benefit being realized, which I anticipate from the opiate treatment. Supposing the necessity of an operation is somewhat urgent in the judgment of the surgeon, I cannot believe that a dread of masking symptoms need deter him from administering opium; no man would be justified in knifing a case without the previous trial of some milder means; therefore let him fix the latest minute to which he deems the operation may be deferred, and if, when the hour of grace has expired, the administration of opium, simply or in combination with other remedial measures, shall have afforded no *essential relief*, then let him be "*bloody, bold, and resolute.*" I should not deem either abatement of pain or arrest of vomiting, individually, to constitute *essential relief* in themselves, but if the subdual of those two distressing symptoms were combined with considerable constitutional relief (I do not mean narcotic stupor), then, although defecation should have taken place, some further delay would surely be justifiable.

Art. 55.—*New Instrument for Vesico-vaginal Fistulæ.*
By H. Hancock, Esq., F.R.C.S.

(*Lancet*, April 28, 1849.)

The want of success which generally attends the attempts to remedy this accident have led Mr. Hancock to invent an instrument which will, he believes, simplify the proceedings, and so lead to more favorable results, by obviating the difficulties hitherto experienced in the operation as at present performed.



The instrument, which is made at Simpson's, in the Strand, consists, as will be seen by the engraving, of two silver rods, *A* and *B*, having across the ends of each a transverse piece about one inch in length, armed with steel points about three eighths of an inch long, directed at an angle of forty-five degrees from the line of the rods; these rods, of which *A* is the longest when applied, are connected together by the sheath, *C*, whilst the degree of approximation in their transverse portions is regulated by means of the nut screwed on the

rod *A*. The lower engraving shows the instrument as applied or put together.

This instrument is intended for transverse vesico-vaginal fistulæ, but the same principle is applicable to those in a longitudinal direction, for which he has also an instrument made. In the transverse form we have two lips of the opening, one looking forward, the other backward, which, for facility of explanation, Mr. Hancock names the uterine and vaginal, the former being that nearer to the uterus. The patient should be placed on her knees, leaning over a pillow on the bed, and the four-bladed speculum introduced into the vagina. The edges of the fistula having been pared, the rod *A* is applied on the uterine lip, the steel points being introduced about half an inch from its edge, and made to penetrate until the transverse rod lies close upon the mucous membrane of the vagina. The rod *B* is next carried under rod *A*, and applied on the vaginal lip in the same manner, and with similar precautions, care being taken to preserve the two rods in perfect apposition, *B* being inferior. The sheath is then slid over them, holding them together, and the nut screwed on to the end of rod *A*. By turning this nut, the edges of the fistula are gradually and gently approximated, as it acts in two ways, propelling rod *B*, whilst it attracts rod *A*, so that the extent of pressure or approximation of the parts may be regulated with the greatest facility, the entire manipulation of the instrument being without the vagina.

A piece of sponge should be introduced into the vagina to keep the instrument, which is to be left applied, steady, and the patient placed in bed on her face, and retained in that position, so that the urine should gravitate away from the wound, and be carried off by a gum catheter worn in the bladder, if the patient can bear it, which is not always the case.

Art. 56.—*Retention of Urine in the Bladder relieved without Catheterism.* By M. J. J. Cazenave.

(*London Journal of Medicine*, August 1849.)

In the 'Union Médicale' for 19th July, 1849, M. J. J. Cazenave adverts to the great difficulty which is frequently encountered in relieving, by means of the catheter, persons suffering from retention of urine in the bladder, and describes a method of treatment, which he performed and found more available than the instrumental. During the last eleven months he has been called to eleven cases of this description; *three* were from chronic inflammation of the prostate gland, and the other *eight* were dependent on strictures. Of the latter class, three had been subjected to long and unavailing trials with the catheter; and five had not been interfered with in any way. The treatment to be described completely failed in the three prostatic cases; it likewise failed in two of those in whom the catheter had been used before M. J. J. Cazenave was called in; but in the six remaining cases—cases of complete retention of urine—it was entirely successful. These are the facts upon which the recommendation of the treatment is based, which is thus described by the author:

"When called to a patient labouring under complete or incomplete retention of urine, I immediately cause the large bowel to be emptied by means of an oily clyster; or I may prescribe a purgative one, if there have been no motion for fifteen or eighteen hours. When the first clyster has been returned, I make use of another, less in bulk, and of cold water. Absolute rest in bed is enjoined; and compresses soaked in cold water, or (what is better) bladders filled with roughly-pounded ice, are placed around the penis, upon the perinæum, thighs, anus, and hypogastrium. If the patient do not pass more or less water after half an hour of this treatment, I have him laid on the edge of the bed, with a waterproof cloth under him, and then subject him, for twenty or twenty-five minutes, to a cold ascending douche, in a small continuous stream. At the end of this time I give another cold lavement, and introduce into the rectum small, smooth fragments of ice. The application of refrigerants to the parts above specified is, at the same time, continued. In an hour I have generally been rewarded by success."

The author speaks with disappointment of his trials with chloroformization as an aid to catheterism.

Art. 57.—*On the Nature and Treatment of Hæmatocele.*

By Bransby B. Cooper, f.r.s.

(*Medical Gazette*, March 16, 1849.)

Hæmatocele is a collection of blood instead of serum in the tunica vaginalis; and the diagnostic marks between hæmatocele and hydrocele are, that, in hæmatocele, the effusion of blood results at once from the lesion of a blood-vessel, and therefore rapidly forms upon the application of the exciting cause; while the fluid of a hydrocele results from an inflammatory action, and only gradually accumulates. In hæmatocele the tumour is always opaque, and much heavier than in hydrocele; consequently greater inconvenience is experienced. If called to a recent case of hæmatocele, you will generally find the scrotum more or less ecchymosed and distended by a fluctuating tumour, and probably the history of the case will prove that a blow or some other external force has been the cause of these appearances, and is sufficient to constitute the diagnosis of the malady.

Hæmatocele not unfrequently results from the operation of tapping a hydrocele, in consequence of the trocar wounding some abnormally distended vessel, either of the skin or tunica vaginalis. In such a case, a few hours after the serum has been drawn off, the swelling is as large as ever, from the accumulation of blood. The largest hæmatocele I ever saw was produced in this manner.

A gentleman who had long been the subject of hydrocele, and who was unwilling to submit to the radical cure, was in the habit of having the operation of tapping performed as occasion required. Becoming tired, however, of the expense this involved, he contrived an apparatus for the purpose of operating on himself, and which was so constructed as to preclude the necessity for forcing the trocar into the tumour by hand; and for this purpose he removed the barrel from a pistol, and,

after sawing off the stock in front of the cock, attached a short canula and trocar to the hammer, so that, by pulling the trigger, the trocar was driven into the scrotum. His first operation was so successful that he quite prided himself on his ingenuity. His triumph was, however, short-lived; for, on a fresh accumulation of the serum, in his very next attempt, directly after he had drawn off the water, he was surprised to find the tumour beginning to swell again, and in the course of two hours it was as large as ever. He applied cold applications, and remained in bed, hoping that what he considered as mere inflammation would soon subside. Finding, however, that this did not take place, in the course of a few days he sent for a surgeon, who told him that it was fungoid disease, and that the testicle must be removed. I was then called in consultation, and recommended that an incision should be made into the tunica vaginalis, when a large clot of blood, with some serum, was removed, and the patient recovered, not only of the hæmatocele, but also of the hydrocele which formed the original disease.

The only treatment, indeed, in hæmatocele is that mentioned in this instance, viz. the laying open the tunic and turning out the clot. Cases are recorded, although I have never had an opportunity of seeing one, in which, after laying open the tunica vaginalis, and removing the coagulum, fresh hemorrhage has immediately occurred, leading to the necessity for applying a ligature round the vessel; and, indeed, it has been stated, that when this tendency to hemorrhage has existed, and no bleeding-vessels could be discovered, it has been necessary to extirpate the testicle.

I admitted a patient about a month ago into Cornelius ward, Guy's Hospital, who a fortnight previously had received a blow on the scrotum. Upon his admission, the scrotum was on one side three times its natural size, and, in form, presented the appearance of a hydrocele, but was perfectly opaque. Upon manipulation, the tumour partly fluctuated, but a large solid mass was discoverable. As the patient mentioned that the tumour was found immediately after the blow, I considered it to be hæmatocele, and proceeded to lay open the tunic. A quantity of serum escaped, and, by introducing the fingers, I turned out a mass of nearly colourless fibrin, the colouring matter of the blood being absorbed.

These cases are good examples of the numerous instances of hæmatocele which have occurred in my practice. I have met, however, with an accumulation of fluid in the tunica vaginalis which could scarcely be described either as hydrocele or hæmatocele, from the character of the sanious fluid which was contained in the sac, and which I believe to depend upon the hemorrhagic diathesis of the patient, and not upon the nature of the accident. I saw a gentleman, who, in riding in the Park, had received a blow on the scrotum: it produced but little pain at the time, although considerable swelling immediately took place. He consulted me four days after the accident. I examined the state of the scrotum, which presented most of the signs of a hydrocele, being fluctuating, but quite opaque; and, as the swelling had occurred so rapidly after external injury, I had no doubt of the disease being hæmatocele, and proposed therefore to immediately lay open the tunic, upon doing which I evacuated eight or ten ounces of sanious fluid,

without any coagulum in it. The opening I made was small, and soon healed, but in a fortnight after the patient returned to me with a fresh accumulation of fluid, which I drew off by the common operation of tapping, and found it of the same sanious character as in the former operation. This led me to suspect that the disease depended upon constitutional deterioration; and, upon questioning my patient, I found that he displayed a hemorrhagic tendency, as he informed me that the slightest blow always produced an ecchymosis on the injured part. I ordered him mineral acids and bark, animal food, sea air, &c., and the disease never reappeared. In fact, the nature of the fluid found in hydrocele, or even hæmatocele, differs much, according to the constitution of the patient, being sometimes as highly coagulable as healthy serum, sometimes only, from the presence of fat, and sometimes containing cholesterine, and in other cases being mixed with blood: in short, we may sum up, gentlemen, by saying that the capillaries of the tunica vaginalis are liable to various deteriorations, and that the effusions vary correspondingly.

ART. 58.—*On the Employment of Gutta Percha Bougies to explore Strictures of the Urethra.* By H. J. BIGELOW, M.D., of the Massachusetts Hospital.

(*Boston Med. and Surg. Journal,* and *Dublin Med. Press,* April 1849.)

This method consists essentially in the use of gutta percha in taking the impression of a stricture. There is in general no difficulty in the treatment of a stricture near the orifice of the urethra. On the other hand, a contraction of the canal far back towards the perineum often presents serious difficulties. The introduction of an instrument is then sometimes impracticable, or requires a tedious and very careful manipulation. It is plain that one great difficulty exists in the inability on the part of the surgeon to ascertain the precise character of the lesion; the geography of the part to be traversed by the bougie. It is well known that this contraction is susceptible of variation. It is abrupt or gradual, concentric or lateral, straight, angular, curved or spiral, smooth or knobbed, long or short, and finally partial or exaggerated; and against all these varieties the principal weapon in the hands of the surgeon is the bougie. This instrument, with little available variety, either in its material or conformation, is a point attenuated or obtuse, urged by a force applied at perhaps six inches distance; and is expected to tread its way through the complicated and winding labyrinth which often constitutes a stricture. Fortunately, the healthy canal traversed by the bougie generally so directs it, that when the contraction is not great, the point enters its orifice after more or less manipulation. Yet it will be conceded that this manipulation, however delicate and skilful, is often, and of necessity, only a series of tentative thrusts or offers, made in the dark in the hope of ultimately discovering and traversing some interval or interstice, should such exist. Other circumstances, such as the density and character of the opposing tissue, and the necessity of employing or of avoiding protracted pressure, complicate the problem.

The common method, it is true, is often quite effectual and satisfactory, especially in the ordinary run of cases of simple or partial contraction; yet there is something gross in it. It is wanting in the nicer modifications of art which should characterise surgical manipulation when they do not interfere with its simplicity. Nor are the results of this process always satisfactory, especially when the case is difficult, or the operator inexpert. It will soon be shown that false passage is very common in connexion with old stricture, simply because the propelled instrument, finding no natural canal, has made one for itself; or, as not unfrequently occurs, when the urine dribbles away, no canal can be detected and no instrument of dilatation passed. These difficulties are not new. Different methods have been devised to bring the part to be operated upon more directly in contact with the tube to see it. Ducamp insisted upon the great advantage of impressions in wax, as conveying an idea of the conformation of a stricture, and contrived hollow tubes, containing centric bougies sliding out like a telescope at one side of the distorted canal. Whoever has tried this wax has probably found, that however good the impression received in the interior may be, it is lost, either when the material is extricated from the stricture or subsequently from the canal. It is of questionable utility in this point of view. Besides, the wax is soft and liable to break; and lastly, when moulded to the canal, it is itself of no use in dilating it, and another instrument of corresponding outline must be arranged for this purpose. The advantages of gutta percha are first, that it is probably the only material in the world capable of receiving an acute impression at a temperature quite comfortable to the skin, and at the same time of retaining it entirely, at about the actual temperature of the body, then becoming hard and resisting, besides being exceedingly tough, even in attenuated filaments. It follows, that upon being withdrawn from the urethra, it presents a perfect impression of the most minute inequalities of the callus against which it has impinged. In the second place, it may be used when thus moulded as a dilator of the stricture; and it can be made to enter with unerring certainty any of its orifices.

A few words will suffice to describe the method I have adopted in employing these bougies. A medium size answers a good purpose, unless there be strictures anterior to the one to be treated, in which case a small calibre is sometimes requisite. Let the bougie be oiled, and the tip passed to and fro rapidly in the edge of the flame of a candle, until it is so warm that the nail will indent it; the mass will remain plastic after the surface has ceased to be hot, and may be rapidly passed down to the stricture, being very smooth and pliable. If it be pressed against the stricture for a minute, with a force equivalent to an ounce or two of weight, and then left to cool during the succeeding three or four minutes, it will present, when slowly and carefully disengaged from the stricture, a firm and unyielding impression of the most minute inequality and indentations of the callous surface. The tip may be cut off and preserved, furnishing, with others, a complete history of the conformation of the stricture under treatment. If water be employed to heat the gum, it will be found that the steam from the surface will soften the rod for the length of an

inch or more, rendering it liable to curl up against the stricture, as small elastic bougies are apt to do. The tip alone should be softened. On the other hand, care should be taken not to burn the gum: its texture and ability to harden are thus destroyed, and a piece may be left in the stricture. Such a case occurred to me. A plug was thus left in a small stricture, causing retention of urine during eighteen hours, when the orifice having become dilated, the plug was forced out by the urine, which then flowed more freely than for many months before. Pure gutta percha softens most readily, and cools with least elasticity and shrinking. It is, therefore, far better for impressions than when adulterated, as is common with caoutchouc. But when pure, a little oiling and use soon raises a fur upon its surface, so that it is probable that some compound will answer better for mere bougies. I have hitherto made these rods from pure gum, of the thickness of sole leather, cut into square strips, plunged into boiling water, and rolled between two boards, care being taken to prevent twisting. When the bougie is imbedded in the stricture, let its head or external end be warmed and flattened in a vertical or transverse direction with reference to the pubis, and it will indicate, when withdrawn, the position of the inequalities in regard to the periphery of the canal.

Suppose now that the impression, as is frequently the case, is forked. Examination of the extremities often indicates which is the true passage, and which the false. Let the false extremity be carefully shaved off, and the bougie returned into the urethra, its flattened head maintaining its relative position to pubis. It forms a conical bougie of the best description, exactly adapted to the form of the true passage, which it inevitably enters. Impressions also record, and especially direct, the progress of a cutting instrument. The general pathology of stricture is not here discussed; but it will be quite obvious that there are cases of irritable and inflammatory stricture in which this method of dilatation, as well as all other active mechanical treatment, would be inappropriate. Nor are the relative merits of dilatation, incision, and cauterization here considered. Each is occasionally a valuable resource; the progress of all is incalculably aided by the knowledge derived from impressions; while the first, by far the most valuable mode of treatment, is considerably accelerated by the actual employment of the gutta percha.

[A paper by Mr. Cæsar Hawkins, pointing out the danger which occasionally arises from these bougies, appears in the 'Medical Gazette,' Oct. 26.]

Art. 59.—*Case of Laceration of the Perinæum cured by Operation.* By Joseph Rogers, Esq., m.r.c.s.

(*Lancet*, May 26, 1849.)

On the 3d of March, 1848, I was called to see a young married woman, residing in my neighbourhood. On making inquiry into her history, I found that she had been delivered a fortnight previously: her labour was most tedious and difficult, and after occupying upwards

of thirty hours, was terminated by instrumental aid. Since that nothing of any consequence had occurred, except that she had suffered considerable pain and smarting on passing urine, and her bowels had been more than usually relaxed. On attempting to walk about, she suffered much pain and sense of bearing-down. I proceeded to make an examination, and found that she was labouring under a laceration of the perineum, extending through its whole length, but not involving the sphincter; it had, however, proceeded as far as the verge of the sphincter, and then had extended around the extremity of the rectum, quite to its posterior part, the whole length of the fissure being about two inches and a half. On passing my finger into the rectum, I could distinctly see it through the thin parietes of the bowel. The edges of the wound had nearly cicatrized, except at the superior part, which was still red and discharging.

I immediately concluded it would be necessary to pare the edges, and bring the sides together by suture, as there was evidently no chance of its uniting by the efforts of Nature. Having previously emptied the bowels, I proceeded to carry out this intention; but unfortunately, although I took every pains with the case, at the end of five days I found that the two stitches had ulcerated through, and that the fissure was as bad as ever.

Being anxious to afford her effectual relief if possible, and having gained her consent to a second operation at the end of ten days from the date of the first, I proceeded to operate a second time, in the following manner: The bowels being emptied by castor oil, and a good dinner being given to her, chloroform was administered, and while under its influence I carefully pared the edges to the full depth of the fissure, and then brought them into perfect apposition by the hare-lip pins, secured by the twisted suture: this was attended with a very considerable amount of difficulty, as the breadth of the perineum was exceedingly slight, and it consequently became necessary to cut off half the length of the pin after its introduction. My patient was then placed in bed; the thighs were carefully secured together by means of a strap, and she was wholly interdicted from all food, except a little toast and the yolk of an egg daily, for six days; her bowels being kept in a state of constipation by means of opiates administered each night, whilst the contents of the bladder were drawn off by means of a long flexible male catheter. The only local application was a napkin, on which a piece of lint spread with simple ointment was placed.

Nothing of any consequence, with the exception of occasional smarting pain, occurred until the evening of the fifth day, but at that date she became extremely anxious with respect to her bowels, and without my leave she took an ounce of castor oil. This failing to produce effect she sent for me, and insisted on my doing something to relieve the bowels. Being compelled to disturb her position, I gently turned her on the right side, and introduced the tube of an enema apparatus into the bowel, but on proceeding to inject, I was much annoyed to find the fluid escaping on all sides of the tube. However, having done enough to quiet her mind, I directed that she should retain her position, and in the course of the night the bowels were relieved without any pain.

On proceeding to remove the pins on the morning of the sixth day, I found that in front and behind them, perfect though slight union had occurred, but in the interval between them no union whatever had occurred, a probe carefully introduced passing readily up into the vagina. The parts were then sponged, a simple dressing was applied, and the patient was again made to lie on her back. The same dressing was applied each morning following, and ten days after the operation the union of the upper and lower parts was so complete, that I was enabled to pencil the orifice of the opening which remained with the lunar caustic; and by these means, at the end of seventeen days from the date of the second operation, perfect union of the whole length of the fissure had been ensured. A perfect removal of what would otherwise have remained a source of considerable inconvenience and pain to my patient was thus effected, and I entertain the earnest hope that its history may be the means of removing the doubts which exist as to the probability of cure in similar cases.

Art. 60.—*On the Treatment of Phymosis.* By M. Vidal.

(*Gazette des Hôpitaux,* Dec. 16, 1848, and *Monthly Journal,* May 1849.)

For the cure of phymosis, M. Vidal prefers the operation of circumcision to that of making a simple incision through the prepuce, on account of the deformity and inconvenience to which the latter gives rise. He performs the operation in the following manner: A line is marked with ink upon the skin of the prepuce in the direction in which the sutures are to be placed. The skin having been neither drawn forwards nor backwards, that part in front of the marked line is laid hold of with a pair of broad pincers, and four threads are then passed through the prepuce with a fine needle. The part held by the instrument is then removed by means of a bistoury or strong scissors. The threads are now divided in the middle, and the eight sutures, thus obtained, are immediately tied so as to keep the cut edges of the skin and mucous membrane in accurate contact. When the operation is performed in this manner, M. Vidal finds that there is seldom any hemorrhage, and the wound almost always unites by the first intention, so that the stitches may generally be removed after forty-eight hours.

Art. 61.—*Improved Operation for Congenital Phymosis.* By Mr. Colles.

(*Dublin Quarterly Journal,* Feb. 1849, and *Prov. Med. and Surg. Journal,* April 4, 1849.)

The operations proposed for the above defect are—1, Circumcision; 2, Simple incision of the prepuce over the surface of the glands.

The objections adduced by Mr. Colles to circumcision are, that from the greater retraction of the outer fold of the prepuce, a second proceeding is necessary to free the more adherent inner fold, and that from the contraction after cicatrization, great pain arises during erection. As an improvement on the ordinary method, Mr. Colles advises the following:

He seizes the edge of the prepuce in the left hand, and holding the scalpel in the right, and at right angles, he removes a circular portion of skin, about a quarter of an inch wide; the outer fold of skin is then drawn back, leaving the glans still covered by the inner fold. He divides this layer about half way back, directly up the centre; he then turns the two angular flaps, thus made, outwards, and unites each angle to the outer skin, about a quarter of its circumference from the frænum; a slight suture at the frænum completes the operation. The part is then drawn forward, so as to cover the glans. In two or three days union takes place; and so little deformity results, that in some cases it would not be known that any operation had been performed.

Art. 62.—*Retraction of the Leg—Instant Cure by the use of the Actual Cautery, and Forcible Extension.* By M. Robert.

(*Annales de Thérapeutique,* Mars; *Prov. Med. and Surg. Jour.* May 30, 1849.)

Two cases of great interest have been lately admitted into this hospital under M. Robert, of rheumatic affection of the knee, with contraction of the leg, and great pain in the joint, and which was immediately relieved by the use of the actual cautery, the patient having been previously chloroformed. In one case the subject was a robust country woman, about 45 years of age, who had for many months suffered with rheumatism in the left knee. The joint had acquired a great size, and the leg become gradually bent almost to a right angle. After having tried various remedies without any avail, she came to the hospital. On examination, the limb was in the position just mentioned, and lay upon its outer side; the knee very large, half as big again as the other, and excessively painful upon the least movement or touch, with inflammatory engorgement in all the surrounding tissues. The patient suffered great pain, and could get no sleep night or day; it was evident that the disease was proceeding either towards complete ankylosis, or towards some other disorganization, from the fact of the abnormal position of the bony surface, and their progressive alteration, as well as of the neighbouring fibrous tissues, and the retraction of the muscles of the leg. M. Robert operated upon the patient in the following manner: The patient was first placed under the influence of chloroform, and five or six stripes were made about four or five inches in length, with a red-hot iron, around the affected joint. M. Robert next forcibly extended the limb, counter-extension being made at the thigh, whilst the knee itself was acted upon, and the articular surfaces made to return to their normal position. After some effort, the limb was brought back to its rectitude and natural length; it was then fixed in a metallic trough, extending from the calf of the leg to the thigh, and the wounds dressed. On awaking, the patient found, with surprise, that her leg was extended and fixed in an apparatus. The pains of which she had complained before were gone, and she felt nothing but the smarting of the wounds.

Six weeks after the operation the wounds were healed, and the patient enabled to walk and support herself upon the straightened

limb. The knee is still weak, enlarged, but not painful; pressure was applied to it, and the patient gets better and better. The articular movements, though still imperfect, increase more and more, and it is almost certain that in a little while the cure will be complete.

The other case was that of a man 40 years of age, who had long suffered from rheumatic affection of the left knee. The limb was equally bent and painful, as in the former case, though not so much swelled, and the same treatment was adopted in every respect, and with the same satisfactory result.

ART. 63.—*Cicatrices after Burns; Removal of the Deformity by the Gliding Method (autoplastie par glissement).* By M. HUGUIER.

(*Lancet*, July 28, 1849.)

M. Huguier, surgeon to the Hôpital Beaujon, lately communicated to the Société de Chirurgie of Paris, the successful results of an operation performed by him to remove the deformity of an everted lower lid fixed in its vicious situation by the cicatrix of a burn. The different steps were as follow:—The margin of the *upper* and lower lids were carefully pared, avoiding the eyelashes and tarsal cartilages; then a semilunar incision was made on a level with the lower segment of the orbit, along the whole extent of that segment, the knife being carried to the bone; two similar incisions were made about three lines below the first, and at the same distance from each other. These incisions facilitated the raising of the lower lid, and five sutures fixed the pared margins of both lids to one another. Lint was then put into the three wounds inflicted by the knife, to prevent healing by first intention, and they were very carefully dressed. The patient presented, a month after the operation, the following appearances:—The inferior half of the globe is perfectly covered by the lower lid, which latter is, in some degree, remodelled; the occlusion of the eye has not been complete, the lids adhere only by the inner and outer angles. The cornea is clear, and vision good, and the new cicatrices do not present any deformity. M. Huguier tried this method, as being recommended by M. Maisonneuve, surgeon to the Hôpital Cochin; this practitioner had remedied, too, the partial loss of the upper lid, by making three parallel incisions on the forehead; it is not recorded, however, how long the artificial adherence of the lids was allowed to go on. M. Huguier himself had operated before on the upper lid in a similar manner, and wished the eye to remain closed for seven or months; but the patient, who was going to be married, had the lids separated after three months, and did very well. This method is similar to the process used by M. Jobert (de Lamballe) for the cure of vesico-vaginal fistula—viz. "autoplastie par glissement." Relapses are to be feared when this method is employed; Celsus and Bordenave had used it; and its novelty must, therefore, be called into question.

Art. 64.—*On the Employment of Collodion in Ophthalmic Affections.* By M. Hairion.

(*L'Union Médicale*, Nos. 29, 31 ; *Brit. and For. Med.-Chirurg. Rev.*, July 1849.)

To be enabled to protect the inflamed cornea from the contact with the air, prevent the movements of the eyelids over its surface, and retain topical applications long in contact with it, are objects which, if realized, would much diminish the severity of keratitis and conjunctivitis. Attempts at accomplishing these ends by the use of court plaster and the like had failed in the author's hands, when collodion offered itself to his notice. He usually applies it to the eyelids of one eye, and afterwards, if both eyes are diseased, to the other; but circumstances may render its simultaneous use necessary. The adhesion never lasts longer than forty-eight hours, frequently not so long, and has to be reaccomplished. The discharges from the eye usually work out a small passage, or a little space may be left at the angle of the eye, without interfering with its immoveability. This often forms an admirable means either of securing rest and darkness for the inflamed conjunctiva or cornea, or of enabling us to make effectual application of various ointments to the ocular surface. Then again, in the various perverted conditions of the eyelids, as in trichiasis, distichiasis, entropion, ectropion, &c., the ease with which, by collodion, the desired rectification can be secured, renders it a most valuable palliative and even curative agent.

Art. 65.—*Chloroform in Practical Surgery.* By Professor John Lizars, F.R.C.S.E.

(*Medical Gazette*, June 8, 1849.)

[In our last Report on the Progress of Surgery (Vol. IX) we gave a very full and careful summary of Prof. Miller's able pamphlet on the 'Surgical Experience of Chloroform,' and we again take this opportunity of referring our readers who may be desirous of information on the use of chloroform in practical surgery to Mr. Miller's pamphlet. The following testimony, borne in favour of this agent in practical surgery, is extracted from a letter, addressed to the editor of the 'Medical Gazette,' by Mr. Lizars, one of the many distinguished operating surgeons of the Liston school.]

You express a regret that my work was published before chloroform was used, as you would then have had my analysis of its uses in operative surgery. Ether had just been introduced, as mentioned under Amputation. Since the employment of chloroform, I have used it in lithotomy, amputation of the extremities, excision of the mamma, and in strictures of the urethra; and although I commenced its use with prejudice, I have now become a thorough convert to its utility in almost every operation in surgery. Under its influence the patient is rendered *pro tempore a cadaver*, and if the surgeon be perfectly master of the anatomy of the parts, he is, as it were, performing a dissection in the anatomical rooms, and is thus enabled to reduce to practice the

observation of John Bell, that operating is nothing more than dissecting on the living body.

When using chloroform the patient should have an empty stomach, and for that reason operations should be performed before breakfast, as chloroform always produces vomiting when the stomach is full, and the rejected fluid is liable to enter the paralysed glottis, and produce suffocation. To this cause I apprehend the great proportion of those who have died under the use of chloroform may be ascribed. An experienced assistant is therefore required to administer the chloroform, and to do nothing else. He must watch its effects, allowing fresh atmospheric air to enter the nostrils and mouth occasionally, during its administration and influence, otherwise the blood may become too greatly carbonized, and death ensue. The patient is soon highly excited, and strikes out with his arms and legs, and then becomes perfectly powerless or motionless: then should the operator commence, and if the patient indicates any restlessness, more chloroform must be administered. A silk pocket-handkerchief, folded about eight inches square, and rendered hollow like a cup, with two drachms or so of chloroform poured into the centre, is to be applied to the nostrils and mouth, and in a few seconds a drachm or two more used in the same way, and in this manner continued until the patient is rendered insensible. Should vomiting take place in consequence of the patient having imprudently breakfasted, his head must be held over the edge of the operating-table, and the operation suspended until this action ceases, otherwise he runs an imminent risk of being suffocated.

In stricture of the urethra, where the patient is of an irritable habit, by putting him under its influence, spasm is totally removed, and that acute sensibility, under which many so afflicted labour, is completely subdued, so that he who is acquainted with the anatomy of the parts cannot fail to carry a small catheter onwards to the urinary bladder in the worst cases of stricture. I have just succeeded in curing a gentleman, 35 years of age, who had laboured under stricture for many years, and in whom, four years ago, urinary infiltration took place, requiring free incisions to moderate the sloughing process. From that time he has been afflicted with a perineal urinary fistula. When I first inserted the smallest catheter, it appeared impossible to ascertain the continuity of the urethra, and from the extreme sensibility of the canal, and the irritability of his constitution, there seemed little or no chance of success without the use of chloroform.

I have not yet had recourse to subcutaneous incision—the *Edinburgh mode* (we shall probably be told) *of treating stricture*—or the free incision of the Nottingham School, or the lancetted stilette of Stafford. Of two patients whom I have known treated with subcutaneous incision, the one is said to have died with hemorrhage, and the other is afflicted with perineal urinary fistula, through which all the urine flows. As I have stated in my work on Practical Surgery, under Catheterism, "this operation is one of the most difficult in surgery; it has consigned more men to the grave than all the weapons wielded by the bands of Marius and Sylla." The late Mr. Liston used to boast that he had never yet failed in inserting a catheter in stricture—that he considered all other modes of treatment barbarous.

SECT. IV.—RARE SURGICAL CASES.

ART. 66.—*Case of Comminuted Fracture of the Pelvis, with Symptoms of Fracture of the Cervix Femoris.* By GEORGE D. GIBB, M.D., Licentiate of the Royal College of Surgeons, Ireland, Member of the Parisian Medical Society, and formerly Assistant House-Surgeon to the Montreal General Hospital.*

(From the *British American Journal of the Medical Sciences*, Sept. 1849.)

Barney Fitzpatrick, æt. 61, an old soldier, of intemperate habits, lean and spare, of short stature and nervo-bilious temperament, was carried into the wards of the Montreal General Hospital, on Tuesday, the 12th of August, 1845, having fallen, about an hour previously, from a considerable height, upon some stones below, sustaining a very severe comminuted and complicated fracture of the pelvis.

He had been working as a labourer at the new market buildings, Commissioners' street, and whilst helping a mason to adjust some cut stones on the upper part of the wall of the second story, his footing gave way, and he was precipitated into the street in the midst of a lot of loose stones and rubbish, the height of the fall being nearly eighteen feet. He was, shortly after the accident, removed to the hospital.

As he laid on the bed, after removing his clothes, he presented the appearance of a person suffering very great agony: his breathing was hurried and anxious, he was very restless, was moaning and groaning continuously from pain, and his pulse was feeble, irregular, and of a fluttering character. The least motion of the trunk or extremities was difficult and painful. His right foot was everted, and the entire limb laid on its external surface. On laying hold of the thigh or leg to examine the fracture, the pain induced was so great that the patient shrieked as if in perfect torture. It was found that the pelvis was most extensively fractured on its right side; on moving the thigh, and pressing the hand above the acetabulum, several portions of broken bone were felt quite moveable. The posterior part of the ilium was found to be fractured, as also the ischium of the same side, and considerable difficulty existed in diagnosing whether the neck of right femur was fractured, as, in addition to the eversion of the foot, there was shortening to the extent of one inch and a half. The trochanter major was nearer the anterior superior spinous process, than on the sound side. On rotating the limb, the trochanter major appeared to move in the segment of a smaller circle than that of the left; and lastly, crepitus was distinctly felt and heard in the joint itself. The leg could not be extended to the same length as the sound one, neither could the leg be inverted; but on attempting to do so, crepitus was distinctly felt, and excruciating pain induced. The patient did not remember in what position he struck the ground, but from the existing symptoms he must have fallen on the right ischium and thigh; as, in

* Read before the Medico-Chirurgical Society, Aug. 4, 1849.

addition to the fracture of the former, there was most extensive ecchymosis, which had extended on to the thigh posteriorly.

Dr. Sewell, into whose service the patient was placed, ordered both legs to be tied together, and a firm roller to be applied around the pelvis. An anodyne draught of tinct. opii at bedtime, and the daily allowance of a pint of beer, which was changed next day to wine.

On applying the bandage around the pelvis and hips, it seemed as if a quantity of loose bones were being tied together; crepitus could be heard quite loudly, and the pain and suffering endured by the unfortunate patient were great in the extreme.

Aug. 30th.—From the restlessness of the patient, his bandages became frequently loosened, and had to be as often reapplied. The method which answered best was a wide and firm circular band, applied around the hips, with a number of tails sewed thereto, which were brought around the thighs and perineum, and fastened to the band above. He has not been free from pain since admission, and anodynes are nightly given to produce sleep. Occasionally, the catheter has been used to empty the bladder, but no injury to that viscus or the urethra occurred at the time of the accident. A few days after admission he passed some blood in his stools, but there was no apparent lesion of the rectum. Ordered half a pint of brandy daily, in addition to his wine.

Sept. 5th.—Three and a half weeks after the accident. Is more quiet, and his health improved. Effusion of callus is now being perceived.

Dec. 3d.—After recovering from the effects of the fracture, and being able to limp about with the aid of a stick, the right foot shorter than the left, the poor fellow was to-day seized with rigors and other symptoms of typhus fever, which daily increased in severity. Jaundice supervened on the 5th in the space of half an hour, and he died on the 8th in a convulsive fit.

His body was taken to the School of Medicine and Surgery for dissection; and on the 28th of March, 1846, I was fortunate enough in being enabled to procure the pelvis entire. The following is an account of its appearance:

Fracture commencing at posterior third of the crest of right ilium, extending downwards and forwards to the anterior part of the sacro-iliac symphysis; a quantity of unabsorbed callus is still present here. Fracture commencing at the spine of right pubic bone, extending along upper part of the acetabulum to antero-inferior spinous process of ilium; then along the margin of pelvis to sacro-iliac symphysis. The portion of bone thus detached had united in an irregular manner, and projected upwards and inwards into the cavity of the true pelvis. The acetabulum was most completely fractured, the only sound part being the anterior half of its iliac portion. A new ligamentous cavity replaced it two inches deep, its walls being formed by ligament and fragments of bone; some of the latter had become united by the same substance. The ischium was fractured at its junction with the pubis, and also with the acetabulum, and had united in a very irregular manner, being closer to, and higher up, than its fellow of the opposite

side. Fracture of ramus of pubis one inch below its spine, not rupturing the symphysis. The thyroid foramen was divided into two parts—the lower one of a quadrangular form, one and a half inch square; and the upper oval, one inch in length at its broadest diameter. Irregular portions and spiculæ of bone projected from different parts of this united fracture, and one in particular had become detached, and had fastened itself midway on the right border of the sacrum.

The result of the union of this fracture is a distorted pelvis, converting the brim into a triangular form, and contracting the dimensions of the true pelvis from the projection inwards of the body of the ischium, which extends to within half an inch of the mesial line of the antero-posterior diameter, thus changing the position of the bladder during life, and causing occasional retention of urine. The crest of the right ilium is higher, and pushed farther backwards, with its anterior spinous processes approaching nearer the vertebræ than on the left side, destroying to a certain extent the right iliac fossa, and altering the relative position of the iliac vessels.

The femur of the affected side was sound, but its head was lengthened, from a deposit (?) of osseous matter, giving to it a peculiar form, and which had accommodated itself to the deep ligamentous acetabulum. This deposit did not seem of a compact nature, as it was not only very porous, but even a scalpel could be pushed into it with very little force, showing evidently that it was not a detached piece from the head of the bone from fracture.

Remarks and observations.—Cases of fractured pelvis are generally rare, and produced only by very great external violence; this is one in which the violence was indirectly applied, and although its immediate results were very severe, they are fully accounted for on considering the age and appearance of the subject of the injury.

The case presents many points of interest seldom witnessed.

In the 1st place, there were the symptoms of fracture of the cervix femoris, when that lesion was not present, as eversion of the foot, shortening, crepitus, &c., as already detailed, and great nicety was required in forming a correct diagnosis.

2d. The shortened member could not be drawn downwards to an equal length with its fellow of the opposite side, neither could it be inverted, and motion in almost any direction gave great pain.

3d. None of the pelvic viscera were injured, although the catheter had occasionally to be used, and blood was passed by stool.

4th. The fracture, certainly extensive, had become perfectly united, and the patient was on the eve of discharge when another cause produced death.

5th. The sequence showing the union of the bones, but in an irregular manner; the formation of a ligamentous acetabulum, with the wise provision of nature in the total absence of any new deposit within the articulation, which might have interfered with the functions of the joint.

And lastly. The osseous prolongation of the head of the femur, which, whether an effort of nature to accommodate the head of the bone to an enlarged and deepened cavity, or the result of an imperfect

and irregular union of the opposed surfaces of a possible fracture within the capsule, is a matter for consideration.

Some of these will be noticed in the course of the subject.

Several cases have been published by various authors, in which the fracture passed through the acetabulum, giving rise to the symptoms of fracture of the cervix in some, as in this case, and dislocation of the head of the bone in others.

Mr. Earle* has related four cases of the former, in which the foot was everted in each, together with a loss of prominence of the trochanter; there was no visible shortening, and the affected limbs could be drawn freely outwards, which motion is highly painful after fracture of the neck of the femur.

In the 'Cyclopædia of Anatomy and Physiology'† are the details of a case of fractured pelvis, caused by a fall off a ladder from a height of fifty feet on to the flags of the street. The injured limb was two inches shorter than the left, which the patient ascribed to a fracture of the femur some years previously. No mention is made as to the position of the limb, but the general details go to show that it was distinctly eversion. Death occurred on the fortieth day, from acute pleuritis. The shaft, head, and neck of the femur were uninjured, but the head of the bone was driven through the fundus of the acetabulum, which was fractured in a stellated manner, having been divided into three portions. The pelvis was broken in several places, and nature had not made the slightest attempt at reparation.

In the same work is the quotation of a remarkable case from Dupuytren:

"The bottom of the cotyloid cavity had been driven in, and the head of the femur had passed entirely into the pelvis. The neck, which had not suffered any solution of continuity, was so strongly engaged in the opening that, even when making the anatomical examination, I found it very difficult to disengage it, and to reduce this new species of luxation."‡ The position of the limb was here also omitted.

Sir Astley Cooper§ relates a case, admitted into St. Thomas's Hospital, having the appearance of dislocation backwards, with shortening of the limb; the patient lived four days. On examination, the fracture was found passing through the acetabulum, dividing the bone into three parts; and the head of the thigh-bone was deeply sunk into the cavity of the pelvis.

Mr. William M'Tyer, on fractures connected with the hip-joint, in the 'Glasgow Medical Journal,' No. XIII, gives four cases in which the head of the thigh-bone was driven through the acetabulum; only three of them were observed after the accidents, and each presented shortening of the limb, with rotation inwards, and slight flexion of the knee. The first two cases were taken for fracture of the neck of the femur, and the third for a dislocation, in consequence of the difficulty experienced in drawing down the affected limb to restore it to the

* Medico-Chirurgical Transactions, vol. xix, p. 250.

† Article 'Abnormal Conditions of the Hip-Joint.'

‡ Leçons Orales. § On Dislocations and Fractures of the Joints.

same length as its fellow. Chelius* says: "If fracture of the hip-bone extend through the hip-socket, and the broken ends be separated, the thigh may be shortened, the foot and knee turned inwards, and the case may be mistaken for a dislocation of the head of the thigh-bone." He does not, however, mention any cases.

The above cases evidently show that a sure diagnosis cannot always be made where the pelvic bones are extensively fractured, and if we judge from the number of cases published, with the additional lesion of fracture of the cervix femoris, we find that it is comparatively rare to meet the two coexistent. Sir Astley Cooper† mentions only one case where there was fracture of the thigh-bone, and that was through the trochanter. On referring to numerous other authors, I cannot come across a single case where the neck of the bone was broken. Of five preparations of fractured pelvis in the Musée Dupuytren in Paris, which I examined, only one was fractured through the acetabulum, and in that case the thigh-bone was uninjured.

In another of Mr. Earle's‡ cases, in which the foot and ankle were extensively fractured, as well as the pelvis, from a fall out of a three-pair-of-stairs window into the area, the patient alighting upon his left foot, he states, after detailing the case: "It is worthy of remark that, in this case, notwithstanding the extent of injury sustained by the foot, the force should have been so great as actually to separate the symphysis pubis and sacro-iliac symphysis, and to drive the whole os innominatum upwards, yet that there should have been no fracture of the neck of the thigh-bone nor of the acetabulum. Fracture of the neck of the femur is said to be sometimes caused by perpendicular falls, but I never yet met with an unequivocal case of such an accident."

My own notes supply me with the following case:

On the 20th July, 1845, a very large and powerful man jumped off the upper gallery of the Montreal General Hospital, a height of thirty-eight feet. He died half an hour afterwards. On examination it was found that the head of the femur was broken internal to the capsular ligament. The right ilium was broken in three places, the pubis in several places, as well as the ischium; many of the ribs were also broken; the convex surface of the liver was ruptured throughout its entire aspect; the lungs were ruptured, and about two quarts of blood effused into the thorax; and a quantity of blood was effused into all the organs and viscera situated on the right side of the body.

Here, although the head of the thigh-bone was broken, and the pelvis most extensively so, the acetabulum remained entire, but there was no shortening of the limb; it was everted, and laid on its outer surface. We may therefore conclude, from the extreme rarity of fracture of the cervix femoris occurring with fractured pelvis, that in almost all cases, if the limb is everted, shortened, and with a loss of prominence of the trochanter, together with acute pain on motion of the limb in almost any direction, that there is fracture through the acetabulum; but if the limb is inverted, and the symptoms of dislo-

* System of Surgery, translated by South, vol. i, p. 544. † Op. cit.
‡ Medico-Chirurgical Transactions, vol. xix.

cation are apparently visible, we must remember the frequent occurrence again of cases in which, in addition to fracture of the bones of the pelvis, the posterior margin of the acetabulum is fractured; but here the diagnosis is ably assisted by discovering the head of the bone on the dorsum ilii, or resting on the edge of the socket, the ligamentum teres still being entire, and in the latter form free motion exists in the joint, such as flexion and extension.*

Inversion of the foot in fractured thigh is rare; but Mr. R. W. Smith† has seen seven examples of it, in five of which the fracture was external to the capsular ligament. "Such cases," he says, "merit the closest attention, for they are especially liable to be confounded with luxations."

That it is a pathological or rather an abnormal condition, very rarely affecting any joint of the skeleton, few can deny. But what may it depend upon, or how came it to be produced here, are questions which present themselves. Occasionally we meet with preparations of united fractures, with an appearance as if irregular growths of bone had become formed or deposited; but it has been shown by Mr. R. W. Smith‡ that the cause of their formation is the union of the fracture itself. Cases of morbus senilis are by no means uncommon, where there is an extensive marginal deposit around the head of the thigh-bone overhanging the neck, and giving it the appearance of a helmet. Several specimens illustrating this are in the museum of the College of Surgeons in Dublin, and are described by Dr. Houston.§

In my private collection I possess a similar specimen; it has in addition an exostotic growth surrounding the attachment of the ligamentum teres. This peculiar condition would seem to be confined to the enarthrosis or ball and socket joints, as the head of the humerus is not exempt from it;‖ this smaller preparation shows this, but in a less marked degree than the previous one, and a growth of bone projects also from the centre of the articulating surface of the head.

In all the cases in which these deposits occur around and upon the joints, the subjects of them are old persons, and it is not unlikely in the case of the subject of this paper, but that old age may have influenced the deposit of bone; or, if that idea cannot be entertained, we may perhaps conclude that on the receipt of the injury, the ligamentum teres may have become ruptured and afterwards absorbed, and a copious effusion of callus have followed to make up for the apparent deficiency in the volume of the articulation, and to accommodate itself to the increased depth of the cavity produced by the fracture, so as to prevent the existence of a vacuum. I have omitted to mention in a previous part of this paper that no trace of the round ligament was found after disarticulation, but the head of the bone was kept in its place only by the capsular ligament, the portions of which attached to the margin of the acetabulum were much thicker than natural.

That there was fracture of the head of the bone here is quite un-

* See Lonsdale on Fractures. Sir Astley Cooper, op cit., Cases Nos. 71, 81. Cyc. of Anat. and Phy., already cited, vol. ii, p. 803. † Treatise on Fractures and Dislocations.

‡ Op. cit. § Cat. Mus. Roy. Coll. Surgeons, Ireland, vol. ii.

‖ See also the same work.

tenable, because I have shown the rarity of the coexistence of fractured pelvis and neck or head of the femur, and still more so the fracture of the head and acetabulum together. And secondly, the appearance of the thigh-bone itself would preclude the supposition of fracture, as nearly all the head of the bone was uncovered, and its circularity only diminished by the superimposed deposit of bone. And lastly and finally, the osseous deposit was porous in its nature, quite soft, more resembling callus, and if it had been pared off, the head of the bone below would have been found to correspond in almost every respect with its uncovered portion.

Art. 67.—*A Case of Dislocation of the Neck successfully treated by Mechanical Means.*

(*Lancet*, June 30, 1849.)

Geo. L——, æt. 46, able seaman, of a stout muscular conformation, with a short bull-kind of neck. On the evening of the 10th of Nov., 1847 (ship at sea), whilst descending the fore-ladder, he fell forwards, with his foot catching between the steps, and pitched on the right side of the head, without inflicting any wound on the scalp; when taken up he was found to be quite helpless, and on being brought into the sick-berth, the chief seat of pain was referred to the back of the neck, which, on examination, presented considerable irregularity of the spinous processes of the fifth and sixth cervical vertebræ, with a bulging of the muscles on the right side, corresponding to the position of the transverse processes of the above-named vertebræ. Prior to my arrival, in attendance on the patient, a crepitus had been twice detected by the assistant-surgeon, at the seat of injury, and pressure caused severe pricking and lancinating pains to extend down both arms to the fingers' ends; these were felt most acutely on the left extremity. The slightest movement of the head caused great agony. The following were amongst the most prominent of the symptoms resulting from the accident: Numbness of superior extremities, with nearly total loss of their motive power; but not completely so, as he could raise the arms in a slight degree when desired; the ability to grasp any object with the hands was, however, entirely lost, more particularly so in the right hand. Paralysis of the lower extremities; partial of the left leg, but complete of the right one, which remained when the patient was seated, doubled under the chair, without his having the power to alter its position, though frequently requested to do so. Pulse slow and small. Pupils irregular; the right more contracted than the left, with less sensibility to the stimulus of light. Face turned towards the point of the shoulder, with the head bent forward on the chest; respiration natural; questions answered coherently.

Extension was made, by suspending the patient in the broad fold of a sheet, passed under the chin, and up by the sides of the head; the two ends being then secured together, and placed on a hook in a beam immediately over him, the chair on which he was seated was gradually removed, so that the loop of the sheet, with the chin resting

in it, had the whole weight of his body, the legs remaining powerless from paralysis, trailing on the deck; the shoulders were now gently rotated, and pressure was made at the same time with my thumbs on the swelling in the right side of the neck, which by degrees receded. These measures could be only persevered in for a short time, but they soon removed the irregularity of the spinous processes, and the bulging of the vertebræ. He now quietly regained the use of the lower extremities, and expressed a desire to pass his urine; with assistance he walked to the water-closet close at hand. The numbness of the upper extremities continued for some time longer, though not to the same extent as at first, and the power of grasping was very much improved.

I placed him in a cot, on his back, with the head in an easy position, where he remained for a period of about five weeks. Leeches were applied, twice or thrice, over the seat of injury, on the first few days succeeding the accident. By the end of six weeks he returned to his duties with all his motive powers restored, excepting perhaps a slightly diminished ability to grasp strongly with the hands, and a numbness, or rather total want of sensation at the tip of the forefinger; this insensible spot was not larger than a good-sized pin's head. I ought to have mentioned above, that during the time he was suspended in the sheet, the assistant-surgeon, from whom I received valuable aid on the occasion, placed himself in front of the patient, to watch closely any unpleasant symptoms that might arise from the pressure under the chin.

During the time this man remained under my observation, on board the ship, subsequent to his return to duty, I noticed that he never carried his head perfectly straight, as he naturally did before the accident; but this was only to be detected by a very close and attentive observer. The man himself would not admit the defect.

He is now serving on board H.M.S. Hastings, in the East Indies.

Art. 68.—*An Unusual Dislocation at the Shoulder-Joint.* By M. Malgaigne.

(*Revue Médico-Chirug. de Paris*, Jan. 1849, and *Monthly Journal*, August 1849.)

François Chauche, 63 years of age, a day-labourer, was admitted into the Hospital of St. Louis on the 31st of October, 1848. On the 15th August he was thrown from a cart to a great distance, and fell on the tip of his right shoulder; he states that his arm was pressed against his body, but cannot say whether it was carried forwards or backwards. Feeling great pain, and being unable to move his arm, he went to a bone-setter, who applied violent traction, and sent him away with his arm in a sling, saying it was cured. He kept on the bandage eight days, and then tried to move his arm, but in vain, each attempt causing great pain. The pain lessened by degrees, and he could move the arm slightly, but the motion was so confined, that he determined, after two months and a half, to come to the hospital. The shoulder presented a singular deformity. It was flattened as in ordinary luxations, the finger could be passed into a depression immediately below the

acromion, and the glenoid cavity was evidently empty. Moreover, the two corresponding edges of the acromion, as also its anterior angle, could be easily felt; in front of this angle, almost beneath the clavicle, there could be seen and felt a large, hard, and spherical projection, continuous with the shaft of the humerus, obeying all the movements given to that bone, and which evidently was the head of the humerus. On its external surface was the anterior or internal surface of the acromion; on its superior, the inferior surface of the clavicle, and it almost completely filled up the space between these two parts. The projection was so great, that it extended for two inches beyond the anterior surface of the clavicle; and it was so superficial, that at some parts it seemed subcutaneous; at the most prominent part the thickness of the integument and muscles was only one third of an inch, and a little further inwards only a quarter of an inch. M. Malgaigne's opinion was, that the head of the bone had at this spot separated the deltoid and great pectoral so as to become almost subcutaneous. To satisfy himself, he ordered the patient, while the elbow was pressed against the body, to endeavour to remove his arm, and, accordingly, he felt the borders of the two muscles contract and leave an interval between them of less than an inch where the head of the bone was only covered by skin. It was evident, then, that the head of the humerus had been carried forwards and upwards above the coraco-acromial ligament and coracoid process; this process could not be felt, the head of the bone completely covering it. On the uninjured side it was deeply situated, somewhat more than an inch behind the level of the clavicle. The following measurements are given by M. Malgaigne (the *centimetre* is nearly two fifths of an English inch): The clavicle was 17 centimetres long, the most internal part of the dislocated head was 9 centimetres from the sterno-clavicular, and 8 from the acromial articulation. On the left side the clavicle measured a little more than 13 centimetres. (?) It was necessary also to examine the disposition of the neighbouring parts. At first sight, the arm appeared to be shortened, and, in fact, the head was seen projecting above the top of the acromion. However, by measuring the arm, and also the anterior parietes of the armpit, there was found to be only half a centimetre of shortening. The armpit was quite empty and free, so high that the whole finger could be passed into it. The elbow was not very much drawn out from the body, and a riband stretched from the posterior angle of the acromion to the epicondyle was not drawn out from the insertion of the deltoid even a centimetre; while, on the sound side, it was more than one. There was no abnormal rotation. The condyles of the humerus had the same relations as on the sound side, and so also had the shoulder-blade.

Art. 69.—*Disease with Extreme Enlargement of the Patellar Bursa —Cured.*—Mr. Banon related to the Surgical Society of Ireland the following case of unusual enlargement of the bursa of the left patella:

P. Byrne, æt. 51, was admitted into Jervis-street Hospital on the 5th of August, 1847. Upon examination, I found a large tumour in front of the left knee-joint containing fluid, and evidently of a bursal

origin. He stated that he first observed a small swelling in front of the patella about thirteen years ago, that it arose without any cause that he can recollect, was then painful, and prevented him for some days from following his occupation as a slater, but soon became free from all uneasiness, and continued to enlarge slowly until about three years ago, when it was attacked by inflammation, accompanied by much pain. It did not, however, suppurate, but soon after increased in size so rapidly that it became a serious inconvenience to him, and at length he made up his mind to submit himself to surgical treatment. The tumour measured twenty inches round its base, and twenty-one inches from behind forwards, including the limb, the measurement of the opposite sound limb being twelve inches in the same situation.

As the man appeared in good health, though much addicted to intemperance, I determined, after giving him a few days' rest, and lowering the system by purgatives, &c., to evacuate the tumour by puncture, and then to proceed as circumstances might warrant me, and accordingly on the 8th of August, I made a small opening with a lancet in the lower and most depending portion of the tumour, and gave exit to nearly two pints of turbid serum, and then closed the opening by adhesive plaster and a bandage. The swelling was by this means considerably reduced, and the patient having been directed to remain perfectly at rest, I left him for some hours. On my return, I found that the tumour had become still further reduced in size, owing to the remaining contents having partly oozed out from the opening, and next morning the evacuation of the fluid seemed to be complete, the bed-clothes being quite saturated with it. The skin hung over the knee-joint in loose folds; the parietes of the bursa, notwithstanding the long existence of the disease, did not appear to be much thickened, and was as yet free from any sign of inflammation, nor was there any indication of constitutional disturbance: still, recollecting the large surface of synovial membrane we had to deal with, and that inflammations of such sacs occasionally ran to so serious an extent as to endanger the life of the patient, I determined on closing up the opening with adhesive plaster, and employing gentle pressure by means of a bandage over the whole joint, and to wait a few days for the occurrence of suppuration, perfect rest to the limb having been in the meantime enjoined to the patient. At the end of four days, the plaster and bandage were removed, and the character of the fluid which exuded from the opening particularly observed, and being found still to be the same turbid serum at first observed without any admixture of pus, at the same time that there existed no tenderness on pressure over the surface of the sac, I ventured to irritate its lining membrane slightly with a blunt probe. Having repeated this proceeding once or twice, and finding that the occurrence of suppuration was still delayed, except to a very slight extent, I finally passed a silk seton from the original opening below through the upper portion of the sac. This proceeding was followed in a short time by slight inflammation and consequent suppuration, which was allowed to continue for four weeks, at the end of which period the seton was withdrawn, the cavity having become obliterated and consolidated by the adhesions of its sides. Two fistulous openings remained for some weeks longer discharging a small quantity of pure

pus, when they finally closed, and since then there has been no discharge or accumulation of fluid of any description, and the contour of the joint soon regained its original conformation. This man has since remained quite free from any return of the disease, and enjoys the perfect use of the limb. There was no appearance in the withdrawn fluid of any of those foreign bodies which Brodie describes in such cases as similar to small melon seeds, but in the bottom of the sac, immediately in front of the patella, some smooth bodies fixed in this situation could be felt projecting into the cavity.

Remarks.—There are some points connected with this case which I think worthy of our particular attention. In the first place, the great size which the tumour attained at once arrests our attention. I have shown the cast taken of it to several medical friends, but none of them had seen so large a bursal tumour. Brodie mentions having seen one the size of a man's head, but I believe it was an enlargement of the bursa, situated between the lower angle of the scapula and the latissimus dorsi. I cannot find any account of a supra-patellar bursa equalling this one in size.

The next point to be observed is the slowness of the supervention of inflammatory action, which could not be excited by irritating the sac with a blunt probe, obliging me to have recourse to the seton, and even from its use the inflammation produced was barely sufficient to effect the desired obliteration of the cavity, and at no time produced any constitutional disturbance worth speaking of. This may, no doubt, be explained on the supposition that this patient was not constitutionally very susceptible of inflammatory action in a high degree, and what renders this more curious is, that by his own confession, he is a man of most intemperate habits, and would, he says, think nothing of drinking a quart of ardent spirits in the day, if he could procure it. We are all aware of the danger which sometimes arises from even opening synovial sacs, inflammation of the severest form and sometimes gangrene resulting in the patient's destruction having followed this operation. So great was Munroe's fear of the effect of air entering these synovial bursæ, that he gives advice in his valuable 'Treatise on Bursæ Mucosæ' how to make valvular openings to prevent that accident. I confess I had some misgivings as to the propriety of opening this bursal tumour, and I was afterwards only induced to pass the seton by having observed the very sluggish manner in which inflammatory action responded to my efforts to excite it by the probe. It is manifest that an attempt to remove this tumour, or a portion of it, by excision, would be an operation of considerable danger, and in my opinion unjustifiable, where other means could be had recourse to.

Reported in *Dublin Medical Press*, April 18, 1849.

Art. 70.—*Iron Rod weighing* $13\frac{1}{4}$ *pounds driven through the Head—Recovery.* By Dr. J. M. Harlow.

(*Boston Med. and Surg. Journal*, Dec. 13, 1848.)

A man, æt. 25, of vigorous constitution and temperate habits, was charging a hole preparatory to blasting, when the powder exploded,

driving the tamping-iron against the left side of his face, immediately anterior to the angle of the inferior maxillary bone. Taking a direction upward and backward toward the median line, it penetrated the integuments, the masseter and temporal muscles, passed under the zygomatic arch, and (probably) fracturing the temporal portion of the sphenoid bone, and the floor of the orbit of the left eye, entered the cranium, passing through the anterior left lobe of the cerebrum, and made its exit in the median line, at the junction of the coronal and sagittal sutures, lacerating the longitudinal sinus, fracturing the parietal and frontal bones extensively, breaking up considerable portions of brain, and protruding the globe of the left eye from its socket, by nearly one half its diameter. The tamping-iron is round, and rendered comparatively smooth by use. It is pointed at the end which entered first, and is three feet seven inches in length, one and one quarter inch in diameter, and weighs 13¼ pounds. The patient was thrown upon his back, and gave a few convulsive motions of the extremities, but spoke in a few minutes. He was carried to an ox-cart, in which he rode sitting erect, full three fourths of a mile to a house. On his arrival there, he got out of the cart himself, and with a little assistance walked up a long flight of stairs, where he was dressed. When seen by Dr. Harlow, an hour and a half after the accident, he was perfectly conscious, but was becoming exhausted from the hemorrhage, which was very profuse both externally and internally, the blood finding its way into the stomach, which rejected it as often as every fifteen or twenty minutes. Pulse 60, and regular. His person, and the bed on which he was laid, were literally one gore of blood. Assisted by Dr. Williams, of Proctorsville, who was first called to the patient, Dr. Harlow proceeded to dress the wounds. From their appearance, the fragments of bone being uplifted and the brain protruding, it was evident that the fracture was occasioned by some force acting from below upward. The scalp was shaven, the coagula removed, together with three small triangular pieces of the cranium, and in searching to ascertain if there were other foreign bodies there, Dr. Harlow passed in the index-finger its whole length, without the least resistance, in the direction of the wound in the cheek, which received the other finger in like manner. A portion of the anterior superior angle of each parietal bone, and a semicircular piece of the frontal bone, were fractured, leaving a circular opening of about 3½ inches in diameter. The examination, and the appearance of the iron which was found some rods distant, smeared with brain, together with the testimony of the workmen, and of the patient himself, who was still sufficiently conscious to say that "the iron struck his head and passed through," was considered at the time sufficiently conclusive to show not only the nature of the accident, but the manner in which it occurred.

The spiculæ of bone having been taken away, a portion of the brain, which hung by a pedicle, was removed, the larger pieces of bone replaced, the lacerated scalp was brought together as nearly as possible, and retained by adhesive straps, excepting at the posterior angle, and over this a simple dressing—compress, nightcap and roller. The wound in the face was left patulous, covered only by a simple dressing. The hands and forearms were both deeply burned nearly to the elbows,

which were dressed, and the patient was left with the head elevated, and the attendants requested to keep him in that position.

10 p. m., same evening.—The dressings are saturated with blood, but the hemorrhage appears to be abating. Has vomited twice only since being dressed. Sensorial powers remain as yet unimpaired. Says he does not wish to see his friends, as he shall be at work in a day or two. Tells where they live, their names, &c. Pulse 65; constant agitation of the lower extremities.

14th, 7 a. m.—Has slept; appears to be in pain; speaks with difficulty; tumefaction of face considerable, and increasing; pulse 70; knows his friends, and is rational. Hemorrhage internally continues slightly. Has not vomited since 12 m.

15th, 9 a. m.—Has slept well half the night. Sees objects indistinctly with the left eye, when the lids are separated. Hemorrhage has ceased. Pulse 75.

8 p. m., same day.—Restless and delirious; talks much, but disconnected and incoherent. Pulse 84, and full. Prescribed vin. colchicum, f℥ss every six hours, until it purges him. Removed the nightcap.

16th, 8 a. m.—More quiet. Pulse 70. Dressed the wounds, which in the head have a fetid sero-purulent discharge, with particles of brain intermingled. No discharge from bowels. Ordered sulph. magnesia ℥j, repeated every four hours until it operates. Iced water to the head and eye. A fungus appears at the external canthus of the left eye.

17th, 8 a. m.—Pulse 84. Purged freely. Rational, and knows his friends. Discharge from the brain profuse, very fetid, and sanious. Wound in face healing.

19th, 8 p. m.—Has been very restless during the day; skin hot and dry; tongue red; excessive thirst; delirious.

23d.—Rested well most of the night, and appears stronger and more rational. Pulse 80. Shaved the scalp a second time, and brought the edges of the wound in position, the previous edges having sloughed away. Discharge less in quantity and less fetid. Loss of vision of left eye.

From this time until the 3d of October, he lay in a semi-comatose state, seldom speaking unless spoken to, and then answering only in monosyllables. During this period, fungous growths started from the brain, and increased rapidly from the orbit. To these was applied nitrate of silver cryst., and cold to the head generally. The dressings were renewed three times in every twenty-four hours; and in addition to this, laxatives, combined with an occasional dose of calomel, constituted the treatment. The pulse varied from 70 to 96—generally very soft. During this time an abscess formed under the frontalis muscle, which was opened on the 27th, and has been very difficult to heal. Discharged nearly ℥viij at the time it was punctured.

Oct. 5th and 6th.—Patient improving. Discharge from the wound and sinus, laudable pus.

11th.—Pulse 72. Intellectual faculties brightening. When I asked him how long since he was injured, he replied, "four weeks this afternoon, at half-past four o'clock." Relates the manner in which it

occurred, and how he came to the house. He keeps the day of the week and time of day in his mind. Says he knows more than half of those who inquire after him. Does not estimate size or money accurately, though he has memory as perfect as ever. He would not take 1000 dollars for a few pebbles which he took from an ancient river bed where he was at work. The fungus is giving way under the use of the cryst. nitrate of silver. During all this time there has been a discharge of pus into the fauces, a part of which passed into the stomach, the remainder being ejected from the mouth.

20th.—Improving. Gets out and into bed with little assistance. Sits up thirty minutes twice in twenty-four hours. Is very childish; wishes to go home to Lebanon, N. H. The wound in the scalp is healing rapidly.

Nov. 8th.—Improving in every particular, and sits up most of the time during the day. Appetite good, though he is still kept upon a low diet. Pulse 65. Sleeps well, and says he has no pain in the head. Food digests easily, bowels regular, and nutrition is going on well. The sinus under the frontalis muscle has nearly healed. He walks up and down stairs, and about the house, into the piazza, and I am informed this evening that he has been in the street to-day. Strict injunctions given to avoid excitement and exposure.

15th.—The patient has been in the street every day except Sunday, during the past week. His desire to be out and to go home has been uncontrollable by his friends, and he has been making arrangements to that effect. Yesterday he walked half a mile, and purchased some small articles at the store. The atmosphere was cold and damp, the ground wet, and he went without an overcoat, and with thin boots. He got wet feet and a chill. I find him in bed, depressed and very irritable. Hot and dry skin; thirst; tongue coated; pulse 110; lancinating pain in the left side of head and face; rigors, and bowels constipated. Ordered cold to the head and face, and a black dose, to be repeated in six hours, if it does not operate. He has had spiculæ of bone pass into the fauces, which he expelled from the mouth within a few days.

16th, a.m.—No better. Cathartic has operated freely. Pulse 120; skin hot and dry; thirst and pain remain the same. Has been very restless during the night. Venesection f℥xvj. Ordered calomel, gr. x, and ipecac., gr. ij, followed in four hours by castor oil.

8 p.m., same day.—Purged freely; pulse less frequent; pain in head moderated; skin moist. ℞. Antim. et potassa tart., gr. iij; syr. simplex, f℥vj. Dose, a dessert-spoonful every four hours.

17th.—Improving. Expresses himself as "feeling better in every respect;" has no pain in the head.

18th.—Is walking about the house again; says he feels no pain in the head, and appears to be in a way of recovering if he can be controlled.

1849, Jan. 3d.—The patient is now at Lebanon, N. H., walking about the house, and riding out, improving both mentally and physically.

ART. 71.—*Report of a curious Surgical Case.* By JOHN G. KYLE, M.D., Cedarville, Ohio.

(*Philadelphia Medical Examiner*, Oct. 1848.)

In the spring of 1846, I was called to see —— Moore, a boy aged two years; had been a very strong, healthy, and fleshy child; now weak, much emaciated, and suffering great pain in the bowels; face pale, extremities cold, no appetite, secretions nearly natural, abdomen very tender on pressure, with a swelling or ridge semilunar in shape, commencing on the left and terminating on the right side of the abdomen, and running so nearly to divide the umbilical from the right and left iliac regions; about fourteen lines in width, and one or two in height; skin slightly reddened, with the appearance of pointing at the extremity of the swelling on the right side, as if some foreign body were trying to make its way out, being as yet, however, rather uncertain what direction it should take, in order to reach its intended destination.

The history of the case was, that, fourteen days previous to that time, the boy was badly choked by something, which, after some considerable difficulty, he swallowed. After which, his parents noticed nothing peculiar for two or three days, when he became fretful and peevish, lost his appetite, and had pain in his bowels. The parents thinking their child had colic, gave anodynes, cathartics, and almost everything else; but finding him growing worse, and sinking rapidly, brought him to the village where I then resided, for advice. Being called on, I found the boy in the condition already described. The history of the case with the then present symptoms, led me at once to conclude that the boy had swallowed some solid indigestible substance, and it having become entangled in some fold of intestine, had passed through its coats, and was now pointing to the surface, and that an operation would be necessary to relieve the boy. The parents were, however, rather doubtful about the success of an operation, and asked until the next morning to deliberate on the matter, to which I readily assented.

When the morning came, Mr. Moore called, and requested me to call and operate on his son, as he believed he would die soon, unless immediately relieved.

The symptoms more aggravated than yesterday. I, in the presence of Dr. A. de Long, L. M. White, Esq., and several other gentlemen, proceeded to operate in the following manner: The boy being secured, I made an incision ten lines long, about equidistant from the umbilicus and ant. sup. spinous process of the right ilium, cutting carefully through the integuments and abdominal muscles. A foreign body could now be felt under the peritoneum, which I punctured with a sharp-pointed bistoury, and brought to view a brown corn straw, which I seized with a small pair of forceps, and drew out; applied simple dressings. The wound healed by the first intention, and the boy regained his health in a short time. The corn straw was forked near the middle, measured thirty-three lines in length, one in diameter, and

at the fork near three lines across. It had evidently been swallowed by the boy fifteen days previous to the operation.

The novelty of the operation, the causes which led to it, and the happy result of the same, are the only apologies the writer has for thus making this case known to his professional brethren.

ART. 72.—*Extraction of a Glass Goblet from the Rectum.* By W. S. W. RUSCHENBERGER, M.D., U. S. Navy, Fleet-surgeon for the East India Squadron.

(*American Journal of the Medical Sciences,* April 1849.)

While recently on a visit to Canton, I derived the history of the following case from the notes and verbal explanations of the Rev. Peter Parker, M.D., chief of the Ophthalmic Hospital, &c., under whose notice they fell. The case affords us a glance at the debauchery practised by a portion of the Chinese population about Canton.

On the records of the hospital, the case numbers 23,930—Glass goblet extracted from the rectum. In the evening of the 1st of March, 1848, a young man, very respectable in appearance, solicited Dr. Parker's aid for his father, whom he had brought to the hospital. With many expressions, indicative of his sense of shame and mortification, he related that Loo, his father, then sixty years of age, had spent the preceding night in one of the "flower boats," or floating brothels on the river, with a prostitute. Under the insane excitement or intoxication produced by the combined influence of drinking spirituous liquors and smoking opium, the lecherous sufferer, in mischievous frolic, forced a glass goblet—size : diameter of brim, $2\frac{5}{8}$ inches; height, $3\frac{1}{2}$ inches; diameter of base, $1\frac{7}{8}$ inches—into the vagina of the companion of his sports. In the course of the night Loo fell into a state of unconsciousness, when the woman sought her revenge. She carefully insinuated the base of the goblet within his anus, and then placing the end of her opium-pipe—a cylinder about an inch in diameter, and a foot and a half in length—at the bottom of the goblet on the inside, suddenly pushed it into the rectum, entirely above the sphincter. Twenty-four hours had elapsed since its introduction. An angle of about a half inch of the rolled lip of the glass had been broken out by efforts made by friends to remove it.

Such was the report of the case when brought to the hospital for relief.

On examination, the glass was found firmly fixed in its position; it was very difficult to pass the extremity of the finger beyond its lip, betwixt its outside and the rectum. In Dr. Parker's opinion, it was impossible to extract it entire; and, therefore, though anticipating difficulty and danger in the operation, he determined to break it down. By means of forceps, such as used by obstetricians in breaking up the fœtal cranium, commencing on the side nearest the pubis, he broke up the goblet, and extracted it piece by piece, carefully guarding the parts by folds of cotton cloth as he proceeded, and removing the small sharp fragments which fell with a teaspoon. After the bowl, or bell portion was removed, the most difficult part of the operation remained

to be performed, for the hemorrhage was free, and the base of the goblet, with the sharp points of the sessile stem, resulting from the fracture, was high up in the rectum, and firmly embraced in a transverse position. Assisted by the bearing down of the patient, the edge of the base was reached by the point of a finger, and with difficulty turned edgewise, guarding against fractured points by pledgets; then, by pressing the smooth side, or bottom of the glass, against the rectum, it was at last extracted. Remaining fragments were sought for, and the intestine thoroughly washed out. To arrest the hemorrhage, which was considerable, strong solutions of sulphate of copper and of alum were injected, and temporarily confined in the rectum, by pressing a sponge against the anus. For a time the bleeding ceased; but during the night several ounces of coagulated blood were evacuated: afterwards there was no more hemorrhage.

The operation occupied an hour and a half. An opiate was administered, and the patient placed in bed. The general treatment consisted in rest, laxatives, and light diet; the rectum was occasionally injected with tepid water, and solutions of nitrate of silver.

On the fourteenth day the case was discharged cured.

Art 73.—*Lateral Transfixure of the Chest by a Scythe-Blade, followed by complete Recovery.* By E. J. Sewell, M.D.

(*British American Journal of Medical Science,* February 1849.)

In the year 1837, Master James Boyle, a youth of about 18 years of age, had been mowing on the lawn, in the vicinity of his father's house, in company with his younger brother, and as is the custom, before going to dinner, he had taken the scythe off the snaith or handle, for the purpose of carrying it, in order to have it sharpened. As he walked homewards, a distance of about a few hundred yards, he happened to step on a log of wood, when his foot slipped, and he fell upon the scythe-blade, which entered his chest under the right armpit and the point appeared under the left. The hapless youth lay still with the deadly instrument in his breast until his brother, who displayed inimitable presence of mind, drew it slowly out, observing with much caution as he did so, the curvature of the blade. The effusion of blood which followed was not so great as might have been expected, and with his brother's aid he walked home. There was, to the best of my belief, no spitting of blood. A surgeon was immediately sent for, and such means as his experience dictated were adopted. Under his care, the youth continued slowly to improve. A day or two after the accident, it chanced that H.M.S. Sappho put into Gaspé Bay, and I lost no time in making the case known to the surgeon of the ship, Mr. Thompson, who directed Assistant-surgeon Sproule to examine the patient, and to render any assistance that might be practicable, which that gentleman immediately did. I remember his remarking that the absence of bloody expectoration was a favorable symptom. As the accident and its unexpected results appeared to me an inscrutable act of Providence, I deemed it desirable that Dr. Sproule should communicate to me by letter his opinion of the case.

It only remains to add, that Master James Boyle is, at present, a robust and vigorous man, and without any local complaint. His pursuit is chiefly that of his father, a whaler, and his domicile is up the south-west branch of Gaspé Bay, in the district of Gaspé, Lower Canada.

Description of the wound. By Dr. Sproule, Assistant-surgeon of H.M.S. Sappho.—The point of the scythe, it appears, entered the axilla or armpit, between the third and fourth ribs of the right side, passing horizontally through the chest, and coming out through the corresponding ribs of the opposite side, making a small opening compared to that by which it entered—accounted for, no doubt, by the point alone coming out. The wound of the right side appears to have been about $2\frac{1}{2}$ or 3 inches long, that on the left about one.

Considering the situation of the wound, and the instrument by which it was made, I consider it a most miraculous escape, which I can only account for by saying that the back of the blade was directed towards the large blood-vesssels, and thereby protected them. Had the edge been otherwise directed, I have no doubt but that the consequences would have been immediately fatal.

Remarks.—Dr. Sproule mainly attributes the escape of the patient from immediate death to the fact of the great blood-vessels not having been divided; and as he indulges in no further speculations as to the nature of the internal injuries, it will be quite fair here to consider what these might have been.

At first sight one would say, that both lungs had been transfixed, but this accident could not have taken place without the supervention of asphyxia on the spot, or at a later period from the advent of double pleuro-pneumonia, with the addition, perhaps, of inflammation of the pericardium. The absence of hæmoptysis from the commencement would, in my opinion, indicate a trifling lesion of the lungs, and this idea will bear itself out, when it is remembered that the back and point of a scythe are blunt, and that the boy was enabled to walk home immediately after the accident, which he could not possibly have done had the respiration been much impeded. My supposition is, that when the scythe entered the breast, the right lung instantly collapsed, and the back of the blade glided harmlessly over its surface. Its further passage through the mediastinum into the left cavity was probably effected at the moment of separation, and when the left lung was so far reduced in size as to offer a partial resistance to the point of the instrument, and thus a comparatively small wound was the result. The absorption, as well as the secretion of gases by serous membranes sometimes proceeds rapidly, from which we may infer, that so long as the scythe remained fixed, there was no new admission of air, and thus the right lung soon recovered, in part at least, its functions. Upon the withdrawal of the blade, the further exclusion of air was probably secured by the external cut forming a valve—the point of the scythe having drawn up the loose skin before passing between the ribs. The external wound on the left side, it will be remembered, was small, and being made from within outwards by a blunt point, the intercostal soft parts must have extended and kept the opening closed. These comments have been made with the assumption, that there was no more than the usual constitutional power of warding off injury, and with the

full knowledge that collapse of the lungs does not invariably follow wounds of the thorax, but in the particular case under consideration, and under the aspect in which I view it, I do not see how the difficulties surrounding it can be solved in any other way.

If the thoracic lesion, however, was of a graver character than I surmise it to have been, the simpler mode of explanation must be rejected, and the case be classed among those rare instances of resistance to injury, which the vital organs are sometimes known to have exhibited. Stabs and wounds of the heart have healed up without leaving any ill consequences, as have also gunshot wounds through the lungs. Patients have recovered with balls or pieces of cloth encysted in the lungs, and more wonderful still, a ball has remained for years rolling loosely about the pleural cavity.

Note.—Since writing the above, I have fallen upon the following passages taken from an article in the 'Medico-Chirurgical Review' for October, entitled "Mr. Guthrie on Wounds and Injuries of the Chest."

"The restorative powers of nature are exhibited in the very marvellous case which closes this lecture. It is that of a bombadier of the Royal Artillery, who was struck by a two-pound shot, which made a clear breach through his side (of the chest we presume)—indeed, so clear, that General (then Captain) M'Donald saw the light through him as he was led up to him! yet this man recovered. This is even more wonderful than the notorious shaft case, the preparation belonging to which is in the museum of the Royal College of Surgeons."

Art. 74.—*Case of Severe Laceration of the Scalp, with remarkable Reproduction of the Tissue.* By Mr. Fleming.

(*Report of Inspectors of Factories*, p. 148, and *Monthly Journal*, May 1849.)

On the morning of the 8th day of June last, Jean Jones, æt. 14, a brusher in Henry Houldsworth and Sons' Spinning Mill, Cheapside street, Anderston, came under my care. The following were the circumstances of her case:

While engaged in brushing beneath the inner end of a mule frame, in a kind of half-sleepy state, she had inadvertently allowed her hair to come in contact with a small revolving horizontal shaft, which, in pulling round the hair, carried along with it about *thirty-five square inches* of the scalp, leaving the upper, front, back, and lateral parts of the skull, completely exposed to that extent, the thin transparent covering of the pericranium being all that was left. On reaching the mill, I found her in a weakly, half faintish state, sitting upon a chair, supported by her friends. She had lost but little blood, but the left temporal artery soon began to bleed so freely as to require a ligature. The wound was dressed with the common adhesive plaster, covered with a cloth moistened with cold water, and the patient removed home to her bed, where she spent the first day and night in a much more comfortable state than could have been expected under the circumstances. On the second day I found her in a remarkably comfortable state compared to what I expected to find; and was not a little surprised at her informing me that at the time of the accident she did not experience

the slightest pain, nor was in the least aware of her misfortune, until she applied her hand to her head!

June 13th.—Going on favorably; the whole surface of the wound studded over with healthy granulations, with the exception of a dark-coloured spot having a sloughy appearance, of about two inches in diameter in the centre of the wound.

June 17th.—The whole of the dark spot sloughed off to-day, leaving about four square inches of the skull completely deprived of its pericranium—a superficial slough had separated from it on the 15th. Continued going on favorably, the wound diminishing in size very much; on the 27th it measured only *twenty-five* square inches. The denuded bone is dotted over with healthy granulations.

July 7th.—Still going on favorably. Wound measures only *nineteen* square inches. On the 22d it measured only *twelve* square inches; the denuded bone is quite covered with healthy granulations.

July 30th.—Wound diminished to *nine* square inches.

Aug. 7th.—The wound to-day measures only *seven* square inches, being only one fifth of its original size two months since. The whole of the new skin, with the exception of about half an inch surrounding the wound, is as completely covered with hair as any other part of the uninjured scalp. The patient continues to be doing well, and is actually gaining flesh, and in a very few weeks will have completely recovered from the accident.

PART III.

MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—MIDWIFERY, AND DISEASES OF WOMEN.

Art. 75.—*On Climacteric Disease in Females.*

By W. Tyler Smith, M.D., London.

(*London Journal of Medicine*, July 1849.)

[We have briefly alluded to this subject in our last Volume (p. 323), but as the author has now presented us with a more detailed account of his views, we think it right to lay a further brief abstract of them before our readers. After remarking on the importance of the function of ovulation on the female economy, he thus proceeds to describe the results of the decadence of that function, at the period denominated the "change of life."]

As soon as irregularity in the catamenia is observed, certain nervous symptoms make their appearance. The most common of these are "heats and chills" of the surface of the body, which are not merely disordered sensations, but are part of a paroxysmal disorder which the author has satisfactorily made out. The simplest form of this paroxysmal disorder, consists in a sudden sensation of cold of the entire surface of the body, soon followed by heat, and accompanied by a sensation of choking. At the commencement of the attack the face is pale, and there is slight headache; but when the heat begins, there are flashes before the eyes, noises in the ears, and frequently nausea and vomiting. The face is flushed, and the carotids throb; and, in fact, there are in many cases all the symptoms of the *petit mal* in epilepsy. The paroxysms are irregular, but are more common at the period of ovarian excitement whether accompanied by menstrual flow or not. The attack is induced by trivial causes, and is followed by languor and irritability of temper. In severe paroxysms, there may be brief insensibility or delirium, or the patient may appear on the verge of epilepsy.

As regards the essential nature of these paroxysms, the author alludes to the reciprocal physiological actions constantly going on between the ovaria, mammæ, and the uterus. When the cessation of the menses arrives, the mammæ and the uterus are no longer stimulated by the ovaria to their wonted actions, but the ovaria are not at once reduced to inactivity; before they subside, they produce the uterine disturbance and nervous erethism, in which the climacteric disorder has its rise. Some influence is also to be attributed, in the first instance to the toxæmic effects of retention in the blood of the catamenial secretion, as suggested by Dr. Cormack.*

* London Journal of Medicine, June 1849.

Another, and perhaps the most important, point in the pathology of the affection, is the condition of the uterus. At this period the organ is more subject to congestion than at any other. In all cases where the paroxysmal seizures are severe, the uterus is found to be turgid and swollen, the appreciation of which condition leads to the most rational and successful treatment.

The climacteric disorder is intimately connected with hysteria, epilepsy, paralysis, and even mania.

Climacteric hysteria.—The paroxysm is often seen to merge into a distinct hysteric attack, all the spasmodic actions characterising that state being present, such as painful spasm of the cardia and pharynx, tenesmus of the rectum, &c.

Epilepsy.—The author has also known the disorder lapse into complete epilepsy, he has seen several cases of epilepsy in which the disease first appeared at the decline of the catamenia.

Apoplexy may also arise out of the climacteric paroxysm.

The treatment of climacteric disorder should have reference to—

1st. The cerebral symptoms.

2d. The ovario-uterine disorder.

3d. The general hyperæsthesia.

1st. *The cerebral symptoms.*—The first care should be to prevent the paroxysms if possible, and for this purpose great attention should be paid to any irritation of the stomach, bowels, and uterus. The diet should be regulated, the bowels kept free, and the uterus treated as will be presently shown. All violent emotion is to be avoided, and stimulating food and drink should be used with caution. Sexual intercourse should be moderate, as over indulgence and insufficient gratification are equally mischievous. If the cerebral disorder be treated as an independent affection, it will often seem to require depletory treatment. This would be a mistake, as patients may be rendered anæmic without curing the disorder. Still it becomes necessary in some cases, when the headache is severe, or when the delirium or insensibility are marked, to apply leeches or the cupping-glasses. Regulation of sleep is of consequence. Early hours and early rising should be advised. The indisposition to exertion should be conquered as far as possible, and the patient should be enjoined to be much in the open air.

2d. *The ovario-uterine disorder.*—The treatment of the ovaria and uterus is the most important point in the management of these cases. The cerebral symptoms are only the *results*, the conditions of the sexual organs the *causes* of the more remote maladies. Any disorder of the uterus or ovaria, beyond that actually incident to the catamenial change, should be carefully treated. The most natural and effective remedy for all the uterine disturbances of this period, is moderate depletion from the os uteri, either by scarification or leeches. Even where hemorrhagic symptoms accompany the change of life, the application of leeches, before the coming on of the uterine flow, diminishes the hemorrhagia by relieving uterine congestion. This form of depletion should be resorted to from time to time during the operation of the change of life, according to the intensity of the uterine congestion. Local depletion is also valuable as a preventive against the

organic uterine lesions, to which the organ is at this time prone. Many of these disorders appear to be aberrations of formative power, which, during the whole reproductive era, has expended itself upon ovulation, gestation, and lactation; but being now turned from these physiological processes, has taken a pathological direction.

The local application of cold is an important auxiliary to depletion, either in the form of hip-baths or vaginal injections. Care must be taken to regulate the bowels by cooling aperients or enemata; but strong purgatives, and especially aloes, should be avoided.

3d. *General hyperæsthesia.*—The hyperæsthesia depends upon the erethism of the nervous system, induced by the irritable condition of the uterine organs, and is, therefore, in a measure alleviated by the treatment above recommended. But, in addition to this, the diet should be carefully regulated, and alcoholic liquors should be avoided, or used but sparingly; for the relief of the distressing nervous sensations, nothing is more useful than moderate doses of sulphuric ether and valerian. Great attention should also be paid to the skin.

The time during which women are subject to the climacteric paroxysm and other affections, at the decline of the catamenia, varies in different constitutions. Some pass through it in a few months; in others it extends over one, two, or more years. The great majority suffer, more or less, until the cessation be finally accomplished.

[Dr. Smith concludes his paper by the assertion that he was the first to draw attention to the climacteric disease. It is assuredly one familiar to every experienced physician; but besides this, it has been described quite as distinctly by Dr. Meigs, both in his translation of Colombat on the 'Special Hygiene of Women,' and in his recent 'Letters on the Diseases of Females.' Among the older writers, the disease is fully recognised by Dr. Fothergill, in the 'Transactions of the Med. Society of London,' vol. i.]

Art. 76.—*Treatment of Sterility by Catheterism of the Fallopian Tubes.* By Dr. Tyler Smith.

(*Lancet*, June 9, 1849.)

[We subjoin some further information upon this subject, to which we briefly drew attention in our last Volume.]

Since my former paper on this subject, I have received many communications respecting the new operation, and I beg to make a few further observations upon it. There is scarcely a single author of repute who does not refer to obstructions of the fallopian tubes as a cause of sterility, but no one had hitherto suggested any feasible remedy. These facts alone must be sufficient to demand attention to any means calculated, like that which I have proposed and practised, to remove this impediment to conception. The following quotations will show that I did not, in my former communication, overrate the importance of fallopian obstruction as a cause of barrenness:—

Dr. Fleetwood Churchill, in his work on Midwifery, gives a pro-

minent place to obstructions of the fallopian tubes in his account of the causes of sterility. He says,—

"The fallopian tubes may be congenitally deficient, or imperforate, though such cases are extremely rare. Their canal may be obliterated from acute or chronic inflammation, or their fimbriated extremities may become adherent to the ovaries. *Even though not imperforate, yet the canal may be filled with adventitious matter.* In all these cases sterility is the consequence, because the access of the spermatozoa to the ovary is prevented."

Dr. Copland refers sterility to "occlusion of the fallopian tubes" as one cause. He goes on to observe,—

"*The openings of the fallopian tubes may be also closed by a membranous production, or by an albuminous exudation from the internal surface of the uterus.* The tubes may be either partially or entirely obliterated, in consequence of the extension or inflammatory action to them from the uterus or adjoining parts. When these alterations extend to both tubes, sterility must necessarily result."

In another passage, Dr. Copland is equally clear upon this point.

"Leucorrhœa is a cause of sterility chiefly when it depends upon inflammatory irritation of the internal surface or neck of the uterus, or when the secretion proceeds from relaxation of the vessels in this situation. When it is a consequence of inflammatory action, sterility may continue after the discharge has ceased, owing to organic changes in the surface of the uterus, or in the fallopian tubes, especially the formation of a false membrane in the former, *and the production of an albuminous exudation in the canals of the latter, or consequent obliteration of them.*"

Mr. Whitehead, of Manchester, the most recent writer on the subject of sterility, when speaking of the causes of this defect, and more particularly of inflammation of the lining membrane of the uterus, remarks, that:—

"The diseased condition of the lining membrane of the uterus may be extended to the fallopian canals, *obliterating for the time their internal orifices*, so as to oppose an insurmountable obstacle to the admission of the spermatic fluid within them, and thus to render the fertilizing effort abortive."

Dr. Hamilton speaks of mechanical obstructions as a cause of sterility in the following terms:—

"In some cases, *inaptitude to conceive depends upon some state of the passages to the womb which act mechanically*, and may be removed by a surgical operation. It is obvious that such cases do admit of a remedy; and accordingly, it is well known to practitioners, that sometimes the efforts of the constitution remove these causes, for instances every now and then occur where married women become pregnant at the distance of several years after marriage."

Many other authors might be quoted to the same effect, but it is unnecessary, as the reality of this cause of sterility cannot be disputed for a moment. But I have no wish to attach undue importance to fallopian obstructions, and to prove this, I give the following very brief sketch of the various causes of sterility. To get a clear and

practical notion of sterility, we must consider the generative apparatus in the female, as one tube, extending from the ovarium to the os externum, the perfect permeability of which at every point is absolutely essential to impregnation.

In treating of the causes of sterility, it is also convenient to consider the uterus as a middle point, towards which the spermatic particles of the seminal fluid of the male have to approach from the ostium vaginæ on one side; and to which the ovules matured in the ovaria have to descend through the fallopian tubes. The absolute conditions of fecundity are, that the male seminal fluid and the ovulum shall be healthy, and that free ingress and egress for the male and female elements of reproduction, through the generative canal, shall be provided for; and further, that the state of the entire generative tube shall be such as not to injure the ovula or the spermatic particles. The uterus, also, must be in a state fitted for the reception and attachment of the impregnated ovule. Infecundity is the necessary and inevitable consequence of failure in any one of these particulars. Into the causes of an infertile state of the spermatic fluid in the male, I do not propose to enter; but when virile, its access to the uterus may be prevented by impediments in the vagina, such as atresia, or imperforation of the hymen; by obliteration, or occlusion of the os uteri; or by occlusion of the canal of the cervix by stricture, or the uterine discharges; or, lastly, the spermatic particles may be destroyed by a morbid condition of the uterine and vaginal discharges. On the other hand, the ovaria may not be in a condition to produce healthy ovules, either from a state of ovarian anæmia or hyperæmia, both of which are revealed by their appropriate symptoms of amenorrhœa or dysmenorrhœa. Or, again, the ovulum being eliminated in a healthy condition, from the ovaria, may be discharged through the fallopian tubes with such rapidity that it has disappeared altogether from the sexual canal before the completion of the catamenial flow. Or, again, the results of subacute inflammation may have thickened the peritoneal covering of the ovaria, so as to render the extension of ova difficult or impossible: to this form of sterility Dr. Tilt has ably directed the attention of the profession. The ovule also, like the spermatozoids, may be destroyed by the condition of the secretions in the fallopian canal, before impregnation has taken place.

The uterus, as I have said, may not be in a condition to receive and retain the unimpregnated ovule. The ovarian irritation accompanying the maturation and discharge of the ovule may be so great as to excite the uterus so much that it secretes the membranous exudation found in some cases of dysmenorrhœa, and which is fatal to impregnation. Lastly, there may be mechanical impediments to the passage of the ovule from the ovaria to the uterus through the fallopian tubes. There may be obliteration and adhesion of the ovarian extremities of tubes to the ovaria; or there may be simple occlusion of the uterine extremity of the tube, so as to prevent both the ascent of the spermatic particles and the descent of the ovule. This part of the generative canal is of especial importance, as it is the narrowest portion, the point where the slightest impediment must necessarily produce sterility. A plug of hardened mucus of the most insignificant character—the merest

débris of the fallopian secretion—may cut off an illustrious race, or change a dynasty. It is to this cause of sterility, which I believe to be very common, and easily and safely remedied, that I wish to direct special attention.

Many of the other causes of sterility which I have enumerated, are severe affections, which force themselves on the attention of the practitioner. But we find in practice that in the great majority of cases of sterility, there is a good state of health, the uterine secretion appears regularly, and there is neither appreciable pain nor disease in any of the reproductive organs. The mere absence of childbearing, all the conditions of fertility being apparently present, is the only symptom. This is, in fact, a reason why a vast number of cases never come under medical treatment at all. I submit, that in these cases of good health combined with sterility, the defect can only arise from some mechanical impediment, such as may be remedied by fallopian catheterism. We sometimes see these cases after years of barrenness, suddenly, and without any apparent cause, give way, and the subjects of them bear children. Such cases are, I have no doubt, cases of fallopian impediment, relieved at length by accident, but which might have been remedied long before by art. In many cases, this form of sterility continues unrelieved until after the decline of menstruation, when childbearing is impossible. I have no doubt I shall be able, hereafter, to publish numerous cases of success by my method. But sterility is not like blindness or deafness, in which the result of an operation is seen at once. Time is required even after the removal of all impediment. At present, the time which has elapsed since I first performed the fallopian operation upon sterile subjects, is not sufficient to show the results; but I have already had one case, in which, after several years of sterility, impregnation took place, but which was followed by abortion at the third month.

Art. 77.—*On Syphilitic Ulceration of the Uterine Neck.* By Dr. Grandcourt.

(*Revue Méd.-Chirurg.*, Mars 1849.)

[The author gives the following general history of syphilitic ulceration of the os and cervix, founded upon the examination of twelve cases, the details of which are given in the original.]

Causes.—This species of ulceration is due in all cases to the action of a specific virus. It may be seated in all parts of the uterine neck, and may even be located so high up in the cervical canal as to escape detection for a considerable time. Prolapse of the womb and simple ulceration of the cervix favours the chances of inoculation. The pregnant state appears likewise to predispose to infection.

With respect to the situation of the ulcer, M. Ricord states, that nineteen times out of twenty, it will be found encircling the orifice. The author has noticed in his cases that this assertion is not exactly borne out, but still that the seat indicated is in reality the most frequent.

Symptoms.—Uterine chancre is not indicated by any external symptoms, or by any complaints on the part of the patient. The absence

of pain is due to the great insensibility of the uterine tissue, an insensibility so great that even the actual cautery is scarcely felt.

It has been generally observed that internal chancre is accompanied by sores on the external genitals; it is, therefore, important when the latter are met with to examine with the speculum. The specific nature of ulcerations on the os uteri found under these circumstances, if they are isolated, are of an irregular outline, and covered with a thick puriform discharge, the edges reverted, and surrounded with a bright red ring of inflammation. At the same time, the neck itself is more or less engorged, but it is not easy to detect the hardened base peculiar to chancre on the internal surfaces.

Bubo of the inguinal glands may appear as symptomatic of uterine chancre; this fact is opposed to the general opinion that the lymphatics of the uterus terminate in the pelvic glands; but that some tubes also enter the inguinal glands has been satisfactorily ascertained by M. Aubry.

The microscopic examination of the pus does not afford any reliable diagnostic sign of chancre; inoculation is the only test.

Treatment.—In the treatment of uterine chancre, perfect rest is indispensable. The recumbent posture alone, is, as we have often seen, able in itself to induce a marked improvement in uterine ulceration. The inflammatory action is to be combated by emollient injections and warm hip-baths. Subsequently, slightly stimulating injections, as that of aromatic wine, may be substituted. [Aromatic wine consists of a scruple of tannin dissolved in a pint of light claret, to which some aromatic herbs, as rosemary, are added; it forms one of the best local applications to chancres, and is the one generally used by M. Ricord.] If the ulcer becomes fungous and of bad aspect, we must destroy the granulations either by Vienna paste or the actual cautery.

Together with the local treatment, a general mercurial treatment is required, but it is necessary at the same time to exhibit some tonic, as iron.

[Dr. Bennett has a chapter on venereal ulcers of the uterus, in the second edition of his excellent work on Inflammation of the Uterus. He divides them into two species, the "real Hunterian chancre," and the "non-chancrous ulcer, which complicates the various forms of syphilis." The former he considers very rare, the reason being that the virus is brushed off before it can come into contact with the os uteri. His description tallies with that of M. Grandcourt.

The other form of ulcer is, according to Dr. Bennett, generally found in women labouring under blenorrhagia or secondary syphilis; but as this does not happen in a larger proportion than among women labouring under symptoms of simple ulcer of the os, he properly regards them as inflammatory in their origin, and not specific.]

Art. 78.—*Pelvic Cellulitis.*—Dr. Lever says, that "pelvic cellulitis is, in the majority of cases, not due to any mismanagement on the part of the medical attendant. It may follow abortion and labour, either premature or at full term. It will be found to come on after preternatural, complex, or flooding delivery; it sometimes arises after labours terminated artificially, and is often prevalent during epidemic puerperal

fever. The part of the pelvis affected is often seen to correspond with the position of the fœtal occiput. Patients of the strumous habit are more susceptible than those of a contrary diathesis. The symptoms usually supervene on the second or third day after delivery; in some cases, they come on actively, in others, insidiously; quickness of pulse and anxiety of countenance being the most common attendants. In all cases, the secretion of milk is small, and the lochia arrested. Pain is a constant symptom, at first confined to the part inflamed; but as the disease advances, and the inflammatory products are effused, the pain is increased. In some cases the disease is very marked, the patient even going out at the end of the month; but on inquiry, it will be found that she complains of pain on one or other side, and loss of power in the corresponding limb. The decubitus is marked, the patient lies on the back or sound side, with the thighs flexed, and the affected extremity resting for support on the sound limb, and rotated inwards, as in hip-joint disease.

The disease terminates either in resolution or suppuration. In the latter case, the abscess may open externally, or into the vagina or one of the neighbouring viscera.

These cases rarely demand active treatment; local depletion, poultices, anodyne vaginal injections, and mild mercurials constitute the treatment. When suppuration is established, more generous diet and tonics are requisite. To remove the induration, small and repeated blisters are called for.

Guy's Hospital Reports, vol. vi, p. 220, 1849.

ART. 79.—*On Mania coexisting with Uterine Disease.* By Dr. LEVER.

(*Guy's Hospital Reports,* Oct. 1849.)

[The object of the present paper is to direct attention to mental derangement consequent upon uterine disease. Two cases illustrative of this connexion are given, which we subjoin.]

CASE I.—Dr. Lever was requested to see a lady in her fortieth year. She was married at the age of twenty-one, and had been a widow three years. She had borne six children. From the period of her husband's death she had been low spirited, frequently weeping, and was sleepless at nights. Latterly, she became the subject of religious delusions. Her symptoms were remarked to increase in severity at her catamenial periods. The menses at this time rarely lasted beyond a day. The discharge was dark, and was followed by profuse muco-purulent discharge. Pelvic pains were complained of, with a sensation of gnawing in the back and groins. She had been in an asylum, without material benefit.

When seen by Dr. Lever, she was restless and excited, bemoaning her condition, and fearing eternal damnation. The head was cool; tongue flabby and indented. The vagina was capacious, and bedewed with a profuse muco-purulent discharge. The uterus was weighty, and somewhat anteverted; the vessels of the organ were found to pulsate strongly; the os uteri was directed backwards, patulous, with thick and rough labia. Upon using the speculum, it was seen to be deeply congested with granulations on each labium. A thick, tena-

cious mucus exuded from the interior of the womb. She was ordered to be cupped from the sacrum to eight ounces; to use the poppy hip-bath every night, and to inject into the vagina a lead and decoction of poppy lotion. She was ordered—

Pil. hydr., gr. ij;
Ext. conii, gr. iij, nocte maneque;
Magnes. sulphatis, ʒss;
Infus. rhæi, ʒij;
Tinct. hyoscyami, ʒss;
Ex infus. valerian.

The cupping relieved the pain, and the discharge was somewhat lessened. In about ten days the cupping was repeated, and her medicine was changed to

Liq. hydrarg. bichlor., ʒj;
Ext. sarzæ, ʒss;
Ex infus. valerian.

From this time there was a gradual improvement in her local symptoms, as well as in the state of her mind. Her treatment extended over a period of five months, and consisted of the occasional leeching of the uterus, which was always followed by perceptible relief, and the continuation of the mercurial until the gums became slightly affected. The ulcers were subsequently touched with the argentum nitras. Under this plan she gradually recovered, and this lady assumed her wonted appearance and spirits.

[A second case is related, which in its main particulars agrees with the above, and the author terminates his essay with the following conclusions.]

1st. That mania developing itself in the female is sometimes associated with and depends upon organic disease and irritation of the sexual organs.

2d. That unless properly treated, such symptoms of insanity may become permanent.

3d. That in selecting the treatment, attention must specially be directed to the local disease.

4th. That in most cases there is a diminution of the menstrual flux.

5th. That at the close of the treatment counter-irritation over the sacrum is a valuable auxiliary.

Art. 80.—*Symptoms of Vesicular Polypus.*—Dr. Lever narrates some cases of this form of polypus, from which he gives the following account of the symptoms:

Continually fretting the portion of the womb with which they come into contact, they produce uterine uneasiness, pains in the loins, groins, and thighs; give rise to a subacute or chronic inflammation of the neck of the uterus, enlargement of its special glands, sometimes hypertrophy, and, in most cases, superficial ulceration. The discharge is very like a decoction of quince-seed, occasionally mixed with muco-pus or streaked with blood. Both married and unmarried are equally liable.

The treatment is simple: removal, either by forceps or excision, and subsequent cauterization of the pedicle, and accompanying ulceration.

Guy's Hospltal Reports, vol. vi, part ii.

ART. 81.—*Extirpation of an Inverted Uterus which had been induced by Polypus.*—By C. H. HIGGINS, Esq., Surgeon to the Taunton Hospital.

(*Edin. Monthly Journal*, July 1849.)

A girl, æt. 17, was admitted into the Taunton and Somerset Hospital for a supposed cancerous affection of the os and cervix uteri. She was of dark complexion, unmarried, and a domestic servant.

Six months since the catamenia appeared for the first time; the second time, they were profuse, and lasted nearly a month, in consequence of which she was under treatment for nearly three months for menorrhagia, with great pain over the pubes. She improved, and the menses resumed their periodicity, but in the interval she had a fetid leucorrhœal discharge. About three weeks prior to admission she experienced a very severe menstrual period, attended with violent and continuous bearing-down pains, closely resembling the expulsive efforts of the uterus in the latter stage of labour. These pains suddenly ceased, and she immediately discovered a large substance filling the vagina, and protruding beyond the labia. In the course of a day or two, a fetid sanguineous discharge came on, and she became so exhausted as to require removal to the hospital.

When seen, her countenance was expressive of great suffering and depression. She complained of an incessant dragging pain at the lower part of the abdomen and back. On examination, an irregularly-shaped mass, about the size of the adult heart, was seen to project from the vagina, and consisting of two distinct portions; one firm and fleshy, of a pyramidal form, the other, a nodular fungoid growth, somewhat resembling cauliflower excrescence. This growth here and there presented a broken-down and ulcerated appearance, from which a copious fetid discharge exuded. On more minute inspection, a kind of pedicle of half an inch diameter was discovered.

The opinion formed at this stage of the examination was, that a double fibrous polypus had been extruded, and that a portion of it had become decomposed by exposure to the air; but in order to arrive at a more conclusive opinion, the author removed the exterior spongy mass, when the more firm body was seen to be of a pyramidal form, flattened from before backwards, about the size of a turkey's egg, very sensitive, and having its narrow end high up in the vagina. The surface was rough, and bathed in a fetid bloody secretion. On making a vaginal examination, a complete cul-de-sac was discovered, at the end of which was a thickened ring encircling the apex of the tumour.

[These signs led the author to suspect something more serious than simple polypus, that it was, in fact, one of the rare instances of an uterus inverted by the weight and expulsion of a polypus. In order to satisfy himself on this point, he searched for the orifices of the fallopian tubes, which he was able to demonstrate by inserting a bristle.

It does not appear that he availed himself of the positive information to be derived from examining by a finger in the rectum and a catheter in the bladder, the meeting of which, by depressing the latter, is all but conclusive of the absence of the womb from its normal situation. The further history of the case is as follows.]

Having satisfied himself as to the nature of the case, it was determined not further to interfere for the present. The patient was confined to the recumbent position, with a support, and lotion to the uterus. Under this management, the patient remained in a tolerably comfortable state for a few days, but the discharge was constant and copious, and was evidently exhausting her strength. In addition to this, the womb became inflamed and excoriated on its surface, and her whole condition so deplorable, as to leave extirpation of the entire womb as the only possible chance of saving life. The author therefore at once requested a consultation, and the operation being approved, was performed on the 5th of May in the following manner:

The patient was placed in the lithotomy position, and the labia held separate by assistants. By means of a double canula, a tape was then passed around the inverted vagina as high up as possible, both as a precaution against hemorrhage, and to give command over the division of the vagina afterwards. The operator then excised the uterus by dividing the vagina immediately above the thickened ring which indicated the position of the os. There was scarcely any hemorrhage. A speculum being then introduced, sutures were placed, and the divided edges of the vagina brought into apposition. The tape was left as a precaution against hemorrhage, and a sponge filled with cold water being placed in the vagina, the patient was put to bed, and had a full dose of laudanum. Five hours after, she had some sleep, but looked exhausted and uneasy. No hemorrhage had occurred.

After the fifth day, amendment was gradual but progressive, and at the end of two months, the patient left the hospital quite restored. The vagina appeared about three inches long, and was a complete cul-de-sac, a ridge being perceptible in the locality of the cicatrix. Five years after, the date of the operation, she had continued well.

[The proceeding of passing a ligature round the vagina previously to excision, and its effects on the after-treatment of the case, are worthy of attention.]

ART. 82.—*Polypus and Inversion of the Uterus—Ligature—Excision of a large portion of the Uterus—Recovery.* By Dr. PEIRSON, Salem, U. S.

(*American Journal of Medical Sciences*, April 1849.)

In June 1848, a medical friend called Dr. Peirson's attention to the case of an Irish female under his care, twenty-four years of age, unmarried. She had been a domestic in a family, where he had first been called to her in October 1847. She then had poor health, so that she was obliged to give up her duties as housemaid; she had uterine hemorrhage from time to time, under which she gradually lost strength. Her statement was that she had enjoyed good health until July 5th, 1847, when she had severe pain in the hypogastric region, rigors,

and menorrhagia, which last was attended with relief. In a fortnight from this she had recurrence of the same symptoms—pain, rigors, hemorrhage with coagula. These attacks were repeated at intervals of two weeks, until October 1847; after which time she was visited by the medical gentleman at whose desire Dr. P. saw her, until March 1848. At this time she had a watery discharge most disgustingly fetid. An examination, made by her medical attendant at this time, discovered a tumour, apparently the uterus in an ulcerated state, low down in the vagina. Her health was not entirely broken up at this time; she had some strength and appetite, so she did not give up attempts to live at service, till about the time she was first seen by the author in June 1847. She was then confined to her bed for the most of the time, very weak, and having a profuse, watery, most offensive profluvium. The feet were much swollen. The prognosis given at our consultation was against her recovery. Injection of a weak solution of soda had a most happy effect in destroying the fetor, and in lessening the discharge, and by the use of tonics her health was much improved. About the middle of July, her medical attendant made an examination, at which he discovered a polypus, which induced him again to call the author in consultation, to attempt means for her relief, which now seemed practicable. He found the polypus filling up the lower part of the vagina, and having a pedicle rather less than an inch in diameter. It was agreed to apply a ligature to this pedicle: this was executed with considerable difficulty by means of Gooch's double canula. There was no pain of consequence upon tightening the ligature; but after two days, abdominal pain and tenderness occurred, with vomiting, requiring the removal of the ligature on the sixth day after its application. In less than a week the dangerous symptoms produced by the ligature subsided, after which it was decided to remove the polypus by excision. The operation was performed in the following manner: the tumour, by means of the forefinger introduced into the rectum, was with difficulty forced without the external organs, and the patient being *then* placed under the influence of chloroform. A pair of strong scissors, curved laterally, was introduced into the vagina, and what seemed to be the pedicle of the polypus was divided at a distance of about two inches. After the removal of the polypus, the os tincæ was felt, natural, but somewhat dilated. On examining the tumour, the polypus was found to be perfectly *sessile*, as the botanists say; and what was esteemed the *pedicle* was the *inverted uterus*. The patient was kept very still in bed for a few days on a low diet, without any movement of the alimentary canal. Her pulse never rose to 100 per minute, and she had hardly a perceptible tenderness in the hypogastric region, and no constitutional disturbance whatever. In a short time she perfectly recovered, and is now at service, in robust health, doing the ordinary duties of a domestic. She has not menstruated since the operation, nor has she felt any disturbance of the system indicative of a menstruous period. Her first attack of pain and menorrhagia was probably the time when the inversion occurred.

ART. 83.—*A successful Case of Ovariotomy by the large Abdominal Section.* By JOHN CROUCH, Esq., M.R.C.S.

(*Prov. Med. and Surg. Journal*, Sept. 5, 1849.)

CASE. *Previous history.*—Fanny Weeks, æt. 24, of healthy habits and appearance. The catamenia have appeared regularly and sufficiently since her fifteenth year, and she enjoyed good health until the year 1847, when she first perceived the abdomen to become hard and distended, particularly in the left iliac region, accompanied occasionally by severe dragging pain. As these symptoms were supposed by her to have been caused by corpulence and a costive habit of body, she consulted no one about them for several months.

In the spring of 1848, she underwent a course of aperient medicine, without any benefit. As her complaint still increased, she consented, in the following summer, to an examination of the bowels.

On carefully examining the tumour, which extended from the left iliac region to the right hypochondrium, it was found to be of an irregular shape, more solid at some points than at others, and in the upper part fluctuation was clearly perceptible to the touch. Several of my medical friends agreed with me, that it was an encysted ovarian tumour, but recommended the patient to wait as long as possible before paracentesis abdominis should be performed. The uterus was afterwards examined, per vaginam, and found to be in a natural and healthy condition.

In May 1849, at her earnest request, I drew off with a trocar seven pints of a coffee-coloured fluid, of a serous character, and highly charged with albumen.

The irregularities of the tumour could now be more distinctly perceived, and on the right side of the umbilicus a hard solid substance could be traced, the diameter of which was five or six inches from side to side, and still more than that from above downwards. The substance was quite moveable above, except for an inch or two anteriorly opposite the denser part. The patient was made to lie on one side, and the tumour being grasped by both hands, and brought forwards from the spine, it was thought to communicate the feeling that it had contracted no adhesions to the viscera posteriorly, and the fingers could be passed almost *behind* the cyst.

The "radical cure," by extirpation of the cyst, was also described to the patient, and the danger and extent of the operation fully dwelt upon, when, without hesitation, she not only consented to it, but was always most urgent in requesting that it should be performed with the least possible delay.

The cause of this importunity, the mother freely acknowledged, was, that she had contracted an engagement of marriage, which her condition rendered her unable to fulfil.

On the evening of the 8th of July, preparatory to the operation, she took ten grains of the inspissated ox-gall, which dose was repeated on the following morning, and produced two copious and good evacuations. The bladder was completely emptied, indeed she had been unable for some time, from the pressure of the tumour above, to retain

the urine for more than an hour, except when she was in the recumbent posture.

The uterus was again carefully examined, per vaginam, while the patient was standing, and pronounced healthy, as far as the os and cervix were concerned. The fundus was found to be unnaturally pressed forwards under the arch of the pubes, not, it was inferred, from any disease of itself, but from the superincumbent weight of the ovarian tumour.

At one o'clock, on the 9th of July, I proceeded to perform the following operation, kindly and ably assisted by friends. The temperature of the room ranged from 80° to 85°. The chloroform was not administered.

Operation.—Having marked out, with a camel-hair brush and iodine paint, five transverse lines across the linea alba, for the insertion of sutures, I commenced an incision into the skin and cellular membrane, about three inches above the navel, and extended it to the length of nine inches towards the pubes, avoiding the umbilicus by about half an inch. I then opened the peritoneum midway between the umbilicus and pubes to the extent of an inch. The character of the tumour being now ascertained, I quickly extended the opening of the peritoneum to the length of the external incision. A large white cyst now partly protruded itself through the opening, evidently the one that had been previously tapped. On making an incision into it, about five pints of the same kind of coffee-coloured fluid as before were let out; and these had collected in as many weeks. Four other separate cysts were then punctured, each containing from half a pint to a pint of fluids of different colours and consistencies. This reduced the tumour to about one third of its original size, and enabled us easily to examine its connexions and the condition of the surrounding viscera. The only adhesion that existed was between the solid part of the tumour in front and the abdominal parietes, midway between the umbilicus and the right crest of the ileum, to the extent of two square inches. This adhesion was easily divided with a blunt bone knife. A great number of small cysts were found closely impacted in the cavity of the pelvis; on raising these, the uterus and the right ovary were seen to be in a perfectly healthy condition. The pedicle of the tumour was then easily discovered, and was situated, as predicted, in the left broad ligament of the uterus. Its thickness, when pressed together, was not greater than a middle-sized finger.

A suture-needle, armed with a double thread of very strong ligature twine, was then made to pierce the centre of the pedicle near its uterine extremity, and the needle being cut off, two of the fore ends were tied very tightly in opposite directions, as in the operation for the cure of a nœvus. This was done in two different parts of the pedicle. Four of the eight strings were then cut off, and the other four were placed at the lower end of the external incision. The tumour was now excised. The tying of the pedicle was the most painful part of the operation, and the only one of which the patient complained.

The external incision was then accurately brought together with five interrupted sutures. To obtain this accuracy, the iodine paint

lines, suggested by Mr. Sandford, answered remarkably well. A narrow compress of linen was placed on each side of the wound, and long broad straps of adhesive plaster were carried from the back and loins of one side over the incision, to the back and loins of the other side, from the epigastrium to the pubes. A roller was not applied around the bowels, as it was deemed inconvenient to remove, but a small toilet table-cloth was carefully pinned, in imitation of the "Dublin obstetric binder," so as to afford equal support to the whole abdominal parietes, and that without the power of slipping. This application, suggested by Mr. T. G. Stockwell, was found very convenient and serviceable, both here and in the after-treatment of the case.

The whole operation occupied twenty-three minutes, and was performed without the loss of an ounce of blood. The patient was then carefully placed in her bed, complaining of pain in the left side only, opposite the part where the pedicle was tied; pulse 80; skin warm and moist; no hemorrhage. A grain of the acetate of morphia was given in the form of a pill.

Report of the case three hours after the operation.—The morphia not producing sleep, forty drops of tinct. opii were given, two hours after the operation, by Mr. Sandford, who kindly remained with the patient until five o'clock. Since the operation she has complained of severe pain in the left iliac region, and of an empty aching in the stomach and loins. Has had also a strong desire to pass water, and begged most earnestly to have something to eat, but this was strictly forbidden. Pulse 115; no hemorrhage. The rapidity of the pulse was attributed as much to the opiate as to the shock of the operation.

Nine o'clock, p.m.—Has had an hour's sleep, and is now almost free from pain, and the desire to pass water has gone off. Pulse 100, soft and compressible; skin moist; tongue clean. Ordered to be kept perfectly quiet, and to take nothing but a little soaked bread and toast-and-water.

Second day after the operation.—Has passed a good night; the pain in the left side has much abated, and recurs only occasionally; urine has been passed by the natural efforts; pulse from 90 to 100, quite soft; skin perspiring; tongue clean. A tube was passed into the rectum to relieve flatulency, with immediate good effect. The abdomen is quite free from distension and pain, and tender only opposite the seat of the pedicle.

From this period the case may be said to have progressed, under the most simple management, without a single bad symptom. The objects of the treatment were to keep the system in a state of depletion, in order to prevent inflammation; to trust as much as possible to the restorative powers of nature, and to interfere with medicine only when absolutely required.

The excellent rules laid down by Dr. Clay, with regard to diet and beverage, were strictly adhered to.

Third day.—Three of the five sutures were taken out of the incision, and all the straps of adhesive plaster were removed except two. The wound, as far as it was uncovered, was united by the "first intention." The bowels were quite flat and free from tenderness, as well as pain.

She had slept well the previous night: urine and flatus had both passed freely by the natural efforts; no motion. The catamenia had appeared in the night, followed by an almost entire relief to the tenderness opposite the pedicle. The wound was dressed with straps of adhesive plaster as before. No medicine ordered.

[The case progressed most favorably, and on August 11 the report is as follows:]

During the last fortnight nothing has occurred to prevent the complete convalescence of the patient. She has returned to her usual habits, and is gaining flesh and strength rapidly. Yesterday the catamenia appeared after the usual interval, for the second time since the operation. The last two ligatures, which had been gradually working their way to the surface, came away to-day, leaving only a small healthy sore, which promises to heal in a few days. The only medicine taken since the last report has been an occasional dose of the inspissated ox-gall.

16th.—The sore is now healed, and her health, in every respect, with the exception of debility, quite re-established.

The measurement of the abdomen, prior to the first tapping, and a fortnight after the operation, afforded the following results:

	Before tapping.	After operation.
From sternum to pubes . .	18 inches	11½ inches.
Circumference of the body at the umbilicus . .	47 „	26 „

Description of the tumour after its removal.—The weight of the solid part of the cyst was nearly four pounds; its circumference was not less than eighteen inches, and must have required an incision of nine inches for its easy removal. The fluids measured nine pints, making altogether, solid and fluid, nearly fourteen pounds. The number of separate sacs was not fewer than *two hundred.* The larger ones contained a serous fluid, like that obtained at the first tapping; some of the smaller ones were filled with a glairy liquid, like white of egg; and a third set afforded a thick semi-solid substance, like dough or pease-pudding. The whole mass of cysts, when emptied of their contents and distended with tow, measured at its largest diameter thirty inches, and at the smaller part nearly two feet. The shape of the tumour is very irregular, and difficult to describe. At the lower part a mass of cysts projected from the rest of the tumour, forming the part which filled the cavity of the pelvis. Two large arteries accompanied the enlarged fallopian tube to its fimbriated extremity, and then meander over the whole cyst.

Remarks.—The relation of this case affords me an opportunity of alluding briefly to the operations that have at different times been proposed for the removal of these troublesome tumours.

The "major operation," performed by making an incision from sternum to pubes, and removing the cyst *entire*, first practised by Macdowal and Lizars, and introduced successfully into England by Dr. Clay in 1842, is seldom had recourse to at the present day, and was clearly not required in the above case; for, although it was im-

possible before the operation to ascertain the exact dimensions of the solid part of the tumour, yet I had good reasons for supposing, from actual measurement, that an incision of nine inches would allow the passage of the cyst, even supposing that its pelvic portion had been equal in size to the full-grown fœtal head. In making this extent of opening, I bore in mind the maxim of Dr. Clay, "that in all cases the incision should be proportioned to the size of the tumour to be removed."

The "minor operation," consisting of an incision of from one to three inches, originally suggested by Dr. W. Hunter, and first practised by Mr. Jeaffreson, would have been of no avail to my patient, although it has been successful in some cases of unilocular cysts.

The third, called also the "four-inched" or "median operation," proposed by Dr. Frederick Bird in 1843, would not have enabled me to meet all the obstacles I had to encounter, yet it has met with eminent success in the hands of its originator, who, up to 1847, had succeeded in seven operations, without one fatal result.

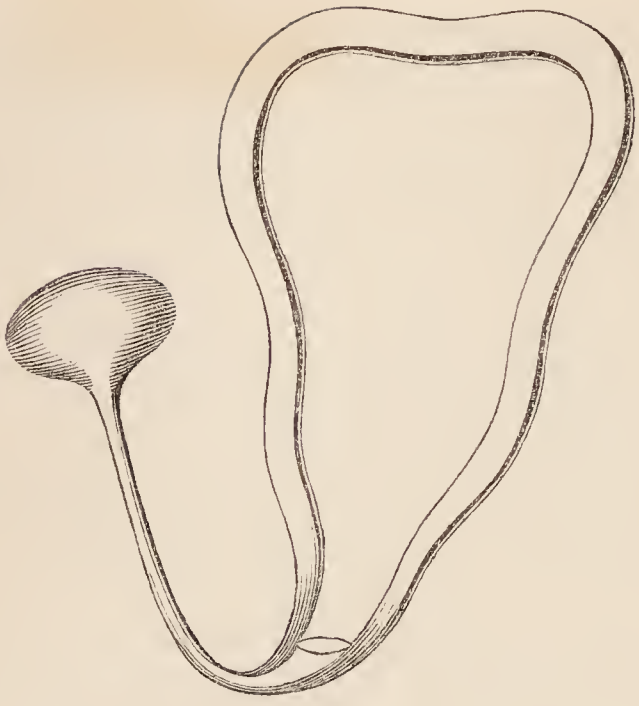
In performing the operation, I endeavoured to avoid some of the errors of my predecessors, as well as to benefit by their experience. The manner in which the pedicle was tied, *by two strong double ligatures*, I consider the best and safest practice; and strong reasons exist for supposing that two recorded cases might have been saved if a similar plan had been pursued.

One of the fatal operations alluded to was performed at St. Thomas's Hospital, by the eminent surgeon Mr. Solly, and is recorded in the 'Medical Gazette' of the 10th of July, 1846. The other is described as "Case eighth" in Dr. Clay's very interesting 'Results of Ovariotomy.'

As a great deal has been written in some of the medical periodicals of the last few years strongly decrying "ovariotomy," under almost any circumstances, however favorable, I cannot refrain from offering my humble opinion that it is a perfectly legitimate and justifiable operation, if performed on a person of an otherwise healthy constitution, and had recourse to in suitable cases.

So far from recommending my patient to wait, as some of these writers would have done, till after "medicine" and "pressure," and "paracentesis abdominis" had been repeatedly resorted to, I considered that the best, if not the only, chance she had of obtaining a "radical cure," was by having recourse to the operation before inflammation had set in, and consequent adhesion had formed. There had been no symptoms of peritonitis before the operation, the only pain complained of was from the dragging of the pedicle of the tumour, consequently I had only one adhesion to divide, and this had been formed clearly from the *friction* of the solid part of the cyst against the abdominal parietes. The patient informs me that if it were not for the tying of the "root" of the tumour, she would be willing to undergo the operation a second time.

Art. 84. *Improved Uterine Supporter.*—Dr. Charles Ritchie has devised an instrument, of which we subjoin a diagram, for the purpose



of giving support in cases of prolapsus uteri. It consists of a framework, similar to that used in Dr. Simpson's uterine pessary, and a stem rising at an angle of 65 from its lower extremity, which stem terminates in an elastic air-cushion, made of thin gutta-percha. The apparatus is kept *in situ* by an abdominal belt and tapes.

Art. 85.—*Case of Cæsarean Operation, with Remarks.*

By Thomas Radford, M.D.

(*Prov. Med. and Surg. Journal*, Aug. 22, 1849.)

The subject of this case was a female residing near Ashton-under-Line. She had suffered for several days the premonitory pains of labour, but these were not of sufficient importance to require interference until May 20th, 1849, when the surgeon, Mr. Cluley, examined, but was unable to feel the os uteri until he caused the patient to place herself in a sitting posture, when the head was found presenting, and the os uteri dilated to the size of a crown-piece. Dr. Radford found her lying on her right side, complaining of great pain if she attempted to turn on the back. The pelvis externally appeared altered from its natural shape; its sides being flatter, and the ilia projecting backwards; the sacrum and the lower lumbar vertebræ had also sunk inwards and downwards. The uterus inclined to the right side, and projected forwards more than usual. The fundus was fluctuant, and rounder than common.

By a vaginal examination, the lower aperture of the pelvis was found considerably diminished, by the close approximation of the rami of the ischia and pubes, which nearly destroyed the arch, and by their projection left only a narrow slit, which would not admit the point of the finger. In the transverse diameter two fingers could only just be placed between the tubera ischii; the antero-posterior diameter was also diminished by the incurvation of the coccyx. The brim, which could be measured with difficulty, was tripartite in figure, occasioned by the falling downwards and forwards of the sacrum, and by the body of the ossa pubis and ischia, which were forced backward, and by the jutting forward of the symphysis and rami of the pubes. The measurement of the conjugate diameter of the two lateral divisions at its widest did not exceed an inch and a half; the anterior division was not more than half an inch in its widest part. In the transverse diameter of the brim

Dr. Radford could barely place three fingers parallel with each other. On her side he was unable to feel the os uteri, but on the back it could be reached. She had not felt the movements of the infant since the morning, but the pulsations of the fœtal heart were satisfactorily heard.

Under these circumstances, and in unison with his opinions as to the position which the Cæsarean operation ought to take in obstetrics, Dr. Radford at once concluded that it was the only operation which was justifiable, and capable of giving the best chance both to mother and infant. Mr. Cluley acquiesced in this opinion. Before the incision was made, Dr. Radford was anxious, as far as possible, to ascertain where the placenta was located, and he therefore placed his ear over the left division of the uterus. From the negative evidence, he concluded it was not fixed on this side of that organ. Mr. Cluley adopted the same plan, but thought he heard the placental "soufflet." Dr. Lees tried, and considered the sound to arise from the friction of the ear on an interposed piece of lint. Mr. Cluley, after a second trial, agreed in the opinion. Dr. Radford, therefore, suggested the left side of the linea alba as the proper situation to make the incision; and raising the fundus uteri, Mr. Cluley divided the abdominal integuments on the left side of the umbilicus, to about six inches in extent, from which very little blood was lost. An opening was now made into the uterus by a scalpel, which was further extended upwards and downwards by the probe-pointed bistoury. At this stage some little bleeding took place from the divided sinuses; and there was also a considerable discharge of liquor amnii. Dr. Radford introduced one hand into the uterus, over the infant's hip, and fixed the fingers under the flexed thigh in the groin, and having placed the other hand on the opposite side of its breech, extracted it vigorously alive. During this manœuvre the uterus strongly and regularly contracted. The funis was now tied and divided by one of the gentlemen present. Afterwards he seized the funis with one hand, and with the other readily detached and brought away the placenta, which was fixed on the right latero-posterior surface of the uterus. There was some blood discharged, but not more than frequently happens after ordinary or natural labour. Several convolutions of intestines, with a portion of omentum, now protruded, which had up to this time been supported and effectually restrained under the abdominal parietes, but they were readily returned. The finger being carried round the wound to ascertain if any portion of these viscera had descended into the uterus, the integuments were brought into proximity, and held together for a short time by a hand placed on each side, and as there was no further discharge of blood, ligatures were inserted at an inch distance from each other, by means of a long needle, with a scalpel-like handle, for this purpose, which admirably answered. Straps of adhesive plaster were laid across the wound, and on each side a compress of lint was placed, and over all a bandage, just tight enough to give a firm support. There is no necessity to follow the author through the daily reports of the progress of the case; suffice it to say that the reactional symptoms were slight; the chief danger arising from exhaustion about the eighth day. During the whole treatment the diet chiefly consisted of milk, but towards the end of it animal food was allowed once a day. The mucilaginous mixture, with sodæ sub boras, was the only medicine which she took,

except the gum-water. When the bowels required relief, an enema of warm water was first administered, and if necessary, this was followed by one containing ox-gall. The collodion was continued as a dressing to the raw surfaces behind, until the latter part of the time, when pads of cotton, with a mild unguent, were substituted. On the 15th of July she was considered perfectly well.

[Dr. Radford's comments upon this interesting case are to the following effect:]

Our patient is thirty-one years of age, and has been married nearly nine. During this period she has had five children. The labours of the first four were natural and quick; the last of this number happened three years ago, and was so rapid that the infant was born before the obstetrician arrived. After the birth of the second, she was rather more delicate, and suffered a little from indigestion; and about five or six years since first complained of slight rheumatic pains about her hips. Two years since she was confined to bed, for a short time, by pains about the pelvis; but she gradually recovered, and afterwards was able to walk about tolerably well. Her general health remained the same up to the period of her last pregnancy. She was now observed to limp a little when she walked, and to be less in height.

During her gestation her progression was more difficult, and her gait more waddling. She also complained more of pelvic pains; and the diminution in her stature now evidently increased. Mollities ossium, the disease under which she suffered, usually commences during pregnancy, and generally becomes suspended in the interval, returning in an aggravated form in each successive pregnancy, until its ravages have completely destroyed the form of the pelvis. In this case, however, it did not exactly pursue this course.

The negative system of treatment here pursued considerably contributed to the well-doing both of this case and also of the one in which I was concerned along with Mr. Goodman. I have also observed the same plan most beneficially carried out in the after-treatment of abdominal sections for the extirpation of large ovarian tumours. There are great objections to the use of purgatives after these great operations, as the mucous membrane of the bowels is so readily disturbed, we therefore only ordered two doses of pills, and trusted chiefly to the use of enemata. The ox-gall enema was decidedly beneficial.

Rupture of the membranes and evacuation of the liquor amnii a long time before the operation, is always to be deplored; but although this accident had happened here, yet the great bulk of this fluid was still retained in the middle and upper portion of the uterus, which felt fluctuant and round in shape, and which admirably prevented the contraction of this organ, and so thereby lessened the chance of mischievous pressure on the maternal structures, and also contributed to the safety of the infant, and rendered its extraction more easy. The length of the uterine wound was also thereby diminished, in a degree proportional to the difference in the measurement of the uterine tissue, when distended by the contained fluid, and after its evacuation, when shortened by contraction.

The dangerous results of protracted labour are to be found in all

the published cases of this operation which have had a fatal termination, and which ought never to be allowed to occur in any cases of labour in which such a degree of deformity exists as to require its performance. In the present case, happily, the water was not evacuated until a short time before the operation, and then only very partially; the pains were also fortunately so slight that no injurious pressure was made.

Fæcal accumulation generally takes place during ordinary pregnancy, if great attention be not paid to prevent it; but in case of distortion of the pelvis, this is much more likely to happen, from the mechanical impediment offered by the unnatural projection of the promontory of the sacrum and lower lumbar vertebræ, and also from the anterior, oblique, and flexed position of the body and fundus uteri, which throws the cervical and oral portions of this organ backwards. The interposed rectum is thereby compressed, and the passage of the fæces interrupted.

The evils of a neglected state of the bowels are not felt so much during pregnancy as they are afterwards, in the puerperal state, and which in some cases lead to a fatal result. It must be quite obvious, then, when we contemplate an operation such as the Cæsarean section, that the bowels should be first unloaded; and if this has not been fully and naturally accomplished, an enema, consisting of a large bulk of warm water, should be administered. In the present case the free evacuation by stool contributed to her safety.

The aid derived from auscultation, to detect whether the child be living or dead, is most valuable, but not more so than the evidence it furnishes us as to the location of the placenta. It is of the utmost importance to avoid, if possible, cutting into this organ, for if it should happen that it is fixed on the portion of the uterus incised, there is some risk of hemorrhage, and it may lead to irregular contraction of the uterus, and so become an obstacle to the speedy and safe extraction of the infant. This accident happened in my unpublished case. Happily in the present case we determined on the site for the incision which was free from placental attachment; and it is remarkable how regularly the uterus contracted.

The analytical tables of all the Cæsarean operations performed in Great Britain and Ireland, which were laid before the profession in 1843, with those added which have since occurred, furnish important data on several practical points; they would, however, occupy too much space to introduce here. One inference to be drawn from them shall be mentioned. It is the black account, or the great maternal mortality shown to arise from this operation. Out of fifty women operated upon, five only have been saved. At the present time it is not my intention to inquire into the validity of these five cases. The statistics of the results of this operation thus appear very unfavorable, and if abstractedly considered, are quite enough to deter us from its performance. But before we condemn this expedient we ought carefully to analyse each case; to ascertain what proportion of the fatal issue is really attributable to it; what part is assignable to the constitutional or local state of the patient; what is due to the length or the influence of the labour itself, or its management; and at

what period, and how it was performed. All these subjects have received my serious attention, and, as far as possible, each individual point has been faithfully recorded by me, and the deductions truthfully stated to the profession. I will now place before you the result of five cases which have occurred to me:

	Saved.	Lost.
Of the five women operated upon . . .	2	3
Of the five infants extracted	2	3

One of the women who died had been in labour thirty-four hours; the membranes were ruptured two hours afterwards; pulse 150 in the minute, and feeble; repeated vomiting; had great tenderness in the belly, which was considerably increased by pressure; great thirst; tongue furred and dry; great anguish expressed in countenance; external genitals much swelled; vagina hot, dry, and rough. On withdrawing the hand an odour was perceived from it similar to that which takes place from partially decomposed animal matter. The movement of the infant had not been felt for some time, and its heart could not be heard by the aid of the stethoscope. When extracted it was dead. In another of the cases which occurred, the woman had been in labour and the membranes had been ruptured twenty-two hours; pulse 130; skin hot; tongue furred; thirsty; pains very frequent; had great tenderness in the belly, which was considerably increased by pressure. The infant was alive, but was destroyed by being spasmodically seized around the neck by the uterus.*

In the third case the duration of labour was fifty-three hours, and the membranes had been ruptured fifty hours; abdomen excessively tender; fetid discharge from vagina; pulse 130, irritable and weak; bowels had not been moved for several days; frequent vomiting; skin hot; great thirst. The incision being made, the intestines were exposed and much inflamed; there was some serous effusion of a red colour in the belly; peritoneal coat of the uterus injected. The infant had not been felt by the woman to move, nor could the pulsation of the heart be perceived by the stethoscope. When drawn out it was putrid.

From the above statement of the condition, before the operation, of the three women who died, we are warranted to conclude that their deaths were not attributable to the operation. We have in all of them indisputable evidence that the mischief was occasioned by protracting it, more especially in the two last-mentioned cases.

Of the three infants extracted dead,—in that of the first case we have every reason to believe it was so before the operation, as it was not felt by the mother, nor could we hear the pulsations of its heart. In that of the second case, it was alive, and its death is no doubt chargeable to the operation, but it was produced by a cause which I think may in general be avoided, or at least guarded against. The third to be accounted for was already dead and putrid.

Notwithstanding the unfavorable aggregate results of the Cæsarean section in Great Britain and Ireland, I think, from my own experience,

* Vide Edinburgh Medical and Surgical Journal, vol. lv, p. 67.

shown in the above statements, I am justified in advocating it as an operation of election, not merely having recourse to it as one of necessity, according to our present obstetric rule, when no other means can suffice, but to give it a preference over the use of the crotchet, in cases when neither premature labour, the long forceps, these two operations combined, or turning, will meet the exigencies of the case. I am a warm, and I hope a sincere, advocate for its adoption, and doubt not but if it is early and properly performed, and if the after-treatment is judicious, it will be even more successful than it has been in my hands.

The maternal mortality will thus be considerably reduced, and will bear a comparison with that of other capital operations, provided a just calculation be made of all contingent and relative circumstances existing in each case. The number of deaths will no doubt then fall consideraby under those occasioned by the use of the perforator and crotchet, although it is now stated to be the reverse, but the truths of which statement I have great reason to doubt. The results to the mother, in all cases of the Cæsarean section, are known; but those after the use of the crotchet are buried in oblivion, the grave telling no tales. The child's rights are maintained by the former, for if living, it may be extracted alive, but by the latter it is necessarily destroyed.

Art. 86. *Dr. Meigs on the Cæsarean Operation.*—Dr. Meigs says: "I hold that no man has a right to subject a living human creature to so great a hazard as that attending the Cæsarean operation, from views relating to any other interests than those of his patient.

"I believe that the Cæsarean operation ought not to be performed in any case, whether the child be living or dead, in which, under the dictates of a ripe and sound judgment, and perfect knowledge of the principles of midwifery, a decision may be obtained that a delivery *per vias naturales* is less dangerous to the mother than that by vivisection.

"Now, as to the question concerning the pelvis through which it is possible to deliver, I think it impossible to fix a minimum aperture through which a woman may be delivered safely. E. S. was delivered through a pelvis of one inch and three quarters, and I twice delivered Mrs. R. with a pelvis of two inches; but to say that a pelvis of one inch and three quarters is the lowest through which a woman can expel a child, is to speak contrary to record. Indeed, the dimensions of a pelvis which render the Cæsarean operation indispensable are variable, they can never be fixed by precept or law; for one woman may have courage and strength to enable her to bear a delivery through a pelvis of an inch and a quarter, whereas another may lose her strength so rapidly, that if she be not promptly relieved she will be inevitably lost. Hence it appears that my assertion is a correct one, that the dimensions which demand the Cæsarean operation are variable. If we go down to diameters of one inch and a half, or one inch, then the question of delivery *per vias naturales* is set aside. But we may find a case in which a woman, having a pelvis of two inches and a half, ought to be delivered by section, because in our judgment we conclude that she cannot live long enough to escape by the slow

process of a crotchet operation. I should not hesitate, therefore, to recommend the Cæsarean operation in a pelvis of two or two and a half inches in one case, nor would I hesitate in another case to advise embryotomy in a pelvis somewhat below two inches in its diameter.

"I have been present in a consultation in which urgent demands were in vain offered to induce me to consent to the Cæsarean operation. The arguments were based chiefly upon the superior claims of the child. In that case, as in all others, I was actuated in my opposition by the firm opinion that the child has no claims whatever, if they come into conflict with the right of the parent. . . . . .

"It appears to me very important that the profession should have just views as to the performance of these grave operations. As I have reason to think that many have not reflected upon all the indications, I am the more desirous of an opportunity to state my own conviction on the matter, and I should be glad, in the most emphatic manner, to enter my protest against the Cæsarean operation being performed with any other views than those relative to the preservation of the mother, saving always, that to preserve the child is a great additional good fortune. I believe that he who performs the operation for the purpose only of saving the fœtus flies in the face of the soundest doctrine; and I cannot understand how the conscience of such an operator should ever be appeased under the reflections that must follow a death not rendered inevitable by the exigencies of the patient."

Obstetrics, the Science and the Art, p. 510.

Art. 87.—*Puerperal Convulsions caused by the presence of Lumbrici.* By W. E. Robbs.

(*Medical Gazette*, Sept. 21, 1849.)

The case is that of a girl, æt. 18, confined of her first child on the 31st of August; the labour was natural, and the child was born at 4 p.m. About two hours subsequently she complained of pain in the abdomen, which the nurse treated as after-pains, and administered twenty drops of tr. opii. Between nine and ten o'clock, six hours after delivery, she was seized with violent epileptic convulsions. The contortions of the face were very frightful, and the jactitation of the limbs so great as to require the aid of two women to keep her in bed. After the convulsions had lasted some minutes she foamed at the mouth, and lay in a complete state of insensibility. The pulse was sharp and frequent, the pupils contracted, the face of a dark-blue colour. In this state she was bled to sixteen ounces; the blood taken was sized and cupped. After this she became quiet; and, on calling her by her name, placed herself upright in bed, and stared about in a bewildered and frightened state. This kind of consciousness did not last long before she was again most frightfully convulsed, and remained insensible about twenty minutes. On recovering, she complained of violent pain in the stomach, which was not increased on pressure. The abdomen was prominent; the uterus distinctly felt, well contracted, in the hypogastric region. On examination of the uterus by the finger, a small coagulum was found, but no particular

sensibility evinced on passing the finger over its anterior lip and circumference. It was found, on inquiry, she had eaten some suet pudding a few hours previous to her delivery, and it was surmised that this might have caused the gastrodynia of which she complained. It was therefore thought advisable to administer hyd. chl., gr. v; p. rhei., gr. xv statim; and two tablespoonfuls of the following mixture every three hours, till the pain was relieved:

℞ Sp. ammon. arom.,
Sp. æth. nitr., āā f℥ij;
Sodæ sesquicarb. ij;
Aq. menth. pip. f℥vss. M. ft. haust.

Sinapisms were applied to the pit of the stomach, and a turpentine clyster administered immediately. After the enema had operated, she dozed at intervals, and became more quiet till about two o'clock in the morning, when the convulsions returned more strongly than ever. The restlessness and tossing about on the bed was so great, that the attendants could scarcely prevent her from throwing herself out. She foamed at the mouth, and her limbs were violently contracted; had bitten her tongue, and lips became very livid. The pulse was frequent, 110 in a minute, soft and feeble. Blood was again abstracted to about twelve ounces, when she turned faint, and broke out in a profuse perspiration. After she became sensible, she complained of a strange sensation in her head and stomach; asked for something to eat, saying she felt very hungry. She continued very restless, at times insensible; moaned and sighed much. The bowels and bladder had been evacuated; the discharge of blood from the womb considerable. The turpentine clyster was ordered to be repeated; a blister to be applied to the nape of the neck, and hyd. chl. gr. vj, to be given immediately; also the mixture to be continued. The clyster acted very freely, but the convulsions returned at intervals, although not with so much violence, till about nine o'clock in the morning, when she voided two large worms (ascarides lumbricoides), one measuring in length nine inches, the other eight; the larger being a quarter of an inch in circumference, the smaller a little less. From that time the convulsions abated: the patient now remains in a weak state, but is gradually recovering her strength.

Observations.—Puerperal convulsions always present a most appalling aspect: they produce the most frightful contortions of the face and body; and, if not quickly relieved, threaten the life of the patient. In most cases they are to be attributed to congestion of the vessels of the brain, produced by parturient exertion, together with the pressure of the head of the fœtus on the os uteri, causing great irritation. When epileptic seizures are produced from these causes, they generally begin while the dilatation of the mouth of the womb is going on, or when the head is passing through it. In these cases we plainly have before us the cause and effect; but when they take place some hours after delivery, the cause is frequently latent, and the remedies we employ must necessarily be more conjectural.

Irritation of any kind, when its intensity is great and long continued, may produce convulsions; but when this is made visible, and the

cause removed, the effects will quickly cease. The case just related is one of many others, affording much for consideration and instruction. The patient, a young girl of spare habit and sanguineous temperament, had been suffering from diarrhœa a fortnight previous to her labour, for which she had been under medical treatment. Several doses of calomel, rhubarb, and opium had been prescribed for her, together with astringent mixtures, which relieved her complaints. At the commencement of her labour, and some days previously, she stated herself to be in health, and the bowels had acted regularly. The parturient pains did not exceed twelve hours in duration, and were not attended with any unusual suffering. The child presented in the first position, and was expelled without any assistance; the placenta followed a few minutes after. It was not surprising, therefore, that the cause of the epileptic attack, some hours after delivery, should be obscure and difficult to detect. The premonitory symptoms were pain in the stomach, and an unusual uncomfortable sensation in the head. She slept a short time very soundly, and snored; awaking, she soon became insensible, and the attack of convulsions developed itself. On investigation it was found she had evacuated the bladder, that the womb was well contracted, and the sanguineous discharge had gone on naturally, but rather more profuse than usual. It is a well-known fact, that puerperal convulsions will continue some hours after delivery without any ostensible cause, and at first this was considered one of those anomalous cases. To relieve the congestion of the brain was the first object; and to effect this a quantity of blood was taken from a large orifice in the median vein of the right arm. It was surmised that some irritation in the intestinal canal might be the exciting cause, and therefore calomel with rhubarb, assisted by terebinthinate enemata, suggested themselves as appropriate remedies. The result was highly satisfactory, although at the time no suspicion of worms was entertained. After the expulsion of the vermes had taken place, and the patient recovered her senses, she was told what had happened; it then occurred to her that she had felt at times something crawling about her stomach, and sometimes up her throat. The sensation it produced was very unpleasant, and created the feeling of thirst, which she very freely gratified. After her libations the stomach became very easy, and the cause of her trouble did not further engage her mind.

Art. 88. *Nurses' Sore Mouth.*—This is a very troublesome complaint of mothers, and one that is rapidly increasing. An infallible remedy, when it does not purge the bowels, is Griffith's myrrh mixture, in tablespoonful doses three times a day, internally, and a solution of nitrate of silver, gr. viij, to ℥iv of pure water for a gargle; and, if the soreness extends towards the stomach, swallow a teaspoonful three times a day. Of course, if need be, the stomach should be cleansed by a light emetic or gentle laxative, antecedent to the above treatment. I believe, if perseveringly used in season, very few mothers need wean their children from this cause; indeed, I have never known it fail to relieve the mouth.

American Journal of Medical Science, July 1849.

Art. 89.—*Neuralgia of the Cervix Uteri.*—According to Malgaigne, this is a frequent affection. It is combined with leucorrhœa, and with congestion of the os and cervix. The characteristic symptom is the presence of a painful spot, generally near the anterior lip. It is also accompanied by neuralgic pains in the abdomen, loins, and epigastrium. His treatment consists of an incision into the painful spot, by which he divides the affected nerve. He states that he has met with great success, and the hemorrhage has in all cases been trifling.

Prov. Med. and Surg. Journal, Aug. 22, 1849.

Art. 90.—*A probable Sign of Masturbation in Females.*—The sad consequences of solitary vice, though well recognised in the male, frequently pass unobserved in the female, in whom the habit is probably equally, if not more common. The general ignorance on this subject arises from the difficulty in obtaining those disclosures which are made by the other sex with less reluctance. M. Durr states that he has for a long time noticed that girls addicted to this vice are subject to warts on the index and medius fingers, the instruments of these practices. M. Vaudge corroborates the above.

Revue Méd.-Chir., Avril 1849.

SECT. II.—DISEASES OF CHILDREN.

Art. 91.—*On the Treatment of Croup, and of the Operation of Tracheotomy.* By Dr. J. T. Meigs.

(*American Journal of Medical Science*, April 1849.)

[In our last Volume (p. 210) we have reported an instance of the successful employment of tracheotomy in croup; the subject is continued by the same writer, by the detail of five other cases of the disease, in three of which the operation was also performed, and in two successfully. The narration of these cases is followed by some general remarks on the treatment of croup, of which the following is a condensed abstract.]

It is generally admitted by recent writers that the most important remedies in true croup are emetics, mercury, and cauterization of the fauces; the value of bloodletting is contested.

Emetics are highly praised by Valleix. He states, that in 53 cases of true croup, emetics formed the basis of the treatment in 31, of which 15 recovered. Of 22 others, where emetics were only rarely given, but one was cured.

Equally important is mercury, given in considerable doses, and continued for some length of time. Dr. Meigs considers it the most important agent at our command in the malignant cases commencing

as angina. Its great efficacy in controlling the plastic exudation, and causing its absorption, is clearly shown by the evidence of many high authorities, as Bretonneau, Rilliet, and Barthez.

Dr. Parrish treats membranous croup by small doses of calomel and ipecacuanha, with Dover's powder; the latter he gives to control the spasm, which adds materially to the danger of the disease. He employs, in addition, cauterization of the fauces, with a solution of nitrate of silver (℈j to ʒj), repeated every two or three hours. He is averse to bleeding. Dr. West places his chief reliance on cauterization and emetics, but remarks that calomel ought not to be omitted. Mr. Porter seems to have less confidence in the effects of mercury. Mr. Ryland, on the contrary, places the greatest reliance on it.

Among the French writers who have particularly recommended calomel in membranous croup are Billard, Bretonneau, Trousseau, Rilliet, and Barthez.

In cauterization of the fauces, the nitrate of silver is generally used, either in the solid state or in solution, varying in strength from one or two scruples to the ounce. Bretonneau, in severe cases, prefers strong hydrochloric acid diluted with three parts of honey. Dr. Meigs states that he was disappointed in the effects of this local treatment; but still he thinks that it ought to form an essential part of the treatment in all cases of membranous croup and membranous angina.

With respect to bloodletting, Dr. Meigs agrees with Dr. West, that it is of the utmost importance in idiopathic croup, or that form which does not begin as membranous angina. On the contrary, he believes that bloodletting is not indicated, and does not prove useful in membranous angina, as this form of the disease is almost always associated with an asthenic state of constitution.

The author next proceeds to discuss the propriety of tracheotomy in croup. He observes that it has not been regarded with favour either in England or America, because it has failed in the majority of cases in which it has been performed. In France it is looked upon in a different light. M. Valleix has collected 54 cases of true croup in which the operation has been resorted to, and found that it was successful in 17. Of later years it has had the support of M. Trousseau, who has performed it 119 times, and saved the lives of 25 of his patients under the most unpromising circumstances.

There is a question which has not been adverted to by M. Valleix, viz. whether the operation itself is attended with danger. M. Trousseau and M. Guersant concur in the opinion that it is not. If this be the case, and the operation removes for a time the impending asphyxia, it must, Dr. Meigs remarks, increase in some measure the chances of recovery, by prolonging life, and thus giving nature time to bring the diseased action to a close, and to the physician an opportunity to administer the remedies most successful in subduing the exudation and causing its expulsion.

With regard to the cases suitable to the operation, Dr. Meigs concedes that little is to be expected from it when the plastic exudation has reached the lungs; but so long as this deposit is confined to the larynx and trachea, the operation is justifiable. He would always

resort to it in such cases, when the symptoms do not after some time abate under medical treatment.

In performing the operation he calls attention to the method followed by Dr. Pancoast, of excising a portion of the trachea, and thus dispensing with the canula. After the operation, MM. Bretonneau and Trousseau instil into the larynx a few drops of a solution of lunar caustic (gr. vj to ℥j). This is repeated three times a day for a few days. In addition to this, they sponge out the larynx with a more concentrated solution, especially when the artificial opening is obstructed by false membrane. This plan adds materially to the success of the operation of tracheotomy.

Art. 92.—*The Pathological Treatment of Hooping-Cough.* By Dr. J. Pidduck.

(*Lancet*, June 16, 1849.)

[After condemning the empirical treatment of this disease, so commonly resorted to, the author observes:]

Pathological anatomy has supplied the principle which leads to a rational practice in this disease. It has demonstrated the existence of a congested state of the vessels at the origin of the pneumogastric and other respiratory nerves, and a more copious effusion of serum around the medulla oblongata than in death from other causes, except those involving diseases of the lungs and heart.

It was the discovery of this state of the vessels at the origin of these nerves, by the late Dr. Sanders, of Edinburgh, which led him to a rational and successful practice in hooping-cough. It consists in applying leeches directly over the junction of the occiput and the atlas vertebra, for the purpose of relieving the congested state of those vessels, followed by a blister between the shoulders, to promote their contraction. The rubefacient effect of the blister is sufficient to answer this indication, and, therefore, in delicate children, a mustard-poultice is preferable to a blister. The rule to be observed is, to apply one leech for each year of the child's age, from one to six; and immediately after the leeches, the small blister or sinapism; and to repeat the leeches and rubefacient on the third or fourth day, if necessary.

The first application usually succeeds in arresting the violent paroxysms of the cough; sometimes a second, but very rarely a third application is required to put an end to the paroxysms.

During the period of nearly thirty years that I have pursued this rational practice, I cannot recollect a single instance of failure in uncomplicated cases of hooping-cough. It is unnecessary to point out to the physician of judgment and experience, especially to those who have studied the intimate relation which subsists between innervation and the diseases of the respiratory and circulatory systems, the importance of attending to the pathological condition of that most directly influential part of the nervous system—viz., the origin of the pneumogastric and respiratory nerves. In the great majority of these cases, heat,

redness, and tenderness on pressure indicate the state of the part subjacent.

This mode of treatment applies strictly to the uncomplicated cases of hooping-cough. The several complications require their separate and appropriate modes of treatment. Leeching the upper part of the spine, and blistering between the shoulders, by arresting the violence of the cough, speedily remove the congested and inflammatory states of brain which the hooping-cough frequently occasions. The catarrhal complication requires the exhibition of the wine of colchicum, combined with an alkali, after clearing the alimentary canal. The bronchitic and pneumonic complications require the administration of the potassio-tartrate of antimony with nitrate of potass; and the biliary complication, of mercury and rhubarb, with saline aperients.

If none of these complications are present, or after they are removed, if the child is delicate, tonics (and pure air is perhaps the best) complete the cure.

The symptomatic proof of the congested state of the vessels surrounding the origin of the pneumogastric nerves is the vomiting, which frequently terminates the paroxysm—a symptom which almost invariably attends an injury done to this part of the cerebro-spinal system by the *contre-coup*, from a fall, or heavy blow on the head. It is this symptom which has led to the irrational practice of giving emetics; and because the food is rejected in an acid state—that is, during the first stage of digestion, when the contents of the stomach are invariably acid, to the still more irrational alkaline treatment. It is, however, true, that an emetic may be useful to clear the stomach and duodenum from morbid secretions, and the bronchi from mucus, after the application of the leeches and blister.

Art. 93.—*Treatment of Eczema Capitis in Children.* By Dr. Burgess.

(*Medical Gazette*, June 1, 1849.)

Dr. Burgess states, that it is always to be remembered that robust and weakly children are not subject to the same form of eruption, and consequently the treatment must vary according to the particular case present; for example, certain eruptions select healthy robust children, as impetigo eczematosa, and impetigo sparsa; whilst others, as favus and impetigo granulata, almost invariably occur in scrofulous ill-fed, and neglected children: the former are developed most commonly before the third year, whereas the latter are seldom seen until about the period of the second dentition. The indiscriminate use of stimulants in the inflammatory eruptions of the scalp, cannot be too strongly condemned; for, as Dr. Neligan, of Dublin,* justly observes, most practitioners employ the most powerful stimulants to the scalp in every form and in every stage of the disease. Stimulating applications do unquestionably, in some instances, cure these diseases when they be-

* See Dublin Medical Journal, July 1848.

come very chronic, and have, so to say, nearly worn themselves out; but the manner in which they do so is by exciting a fresh inflammation in the scalp, by which a new action is produced sufficient to change the condition which previously existed there. They, however, more frequently fail, and the existing disease is then much aggravated from their use: it is, moreover, only in the very chronic stage that they ever do prove beneficial, as the employment of even the most mildly stimulating applications proves highly injurious in the inflammatory stages. Another circumstance worth bearing in mind is, never to shave the hair off the parts, but rather to cut it close with the razor-scissors; for by so doing, the irritation which the razor always produces when applied to an inflamed or broken surface, will be altogether obviated—a preliminary matter of considerable importance as regards the subsequent treatment. As a general rule, greasy applications of all and every kind are bad in the treatment of eruptions of the scalp, and for this reason ointments should seldom or never be employed. All their alleged advantages may be as readily acquired by the more cleanly and less irritating form of lotion.

I am so convinced of the truth of this observation, from considerable experience at the hospital of St. Louis and elsewhere, and knowing the long-cherished partiality for unguents still very generally prevails, that I have taken the opportunity, in a recent work on 'Diseases of the Skin of the Exposed Surfaces,* of directing attention to this point. It was only the other day that a very intelligent practitioner, and one of long standing in the profession, said to me, "You may depend upon it, there is nothing like *citrine ointment* for scalp diseases." When asked if he recommended it for any particular eruption, or indiscriminately for all, occurring in that region, he unhesitatingly answered, that "he found it more or less beneficial in *all*." While such vague views of the treatment of these complicated lesions prevail, we can scarcely wonder that they should so frequently find their way into the hands of the empiric, who seems to have a time-honoured interest in their management and cure.

As eczema is a constitutional and not a local affection, it is obvious that the treatment should be principally directed through the system generally to the seat of the disease. In the chronic form of the eruption this is especially the case; and here the first indication, after the usual measures of cleanliness have been adopted, is to restore the tone of the system by means of a course of mild tonics and alteratives. When circumstances are favorable, and the proper time arrives for arresting the discharge, it should be effected in as gentle a manner as possible, so as not to derange the internal organs; and for this purpose I prefer mild alkaline lotions of the carbonate or bicarbonate of potass and the frequent use of the simple or emollient bath, in which the patient, unless very feeble, should remain at least one hour: the usual method of keeping the patient in twenty minutes or half an hour, being useless.

* Eruptions of the Face, Head, and Hands, with the latest improvements in their treatment.

If there is an abundant serous exudation, and much smarting in the parts, half a drachm of sulphuric acid in a pint of barley-water will be found very useful. The patient should commence with small doses, and take a little cold water after each dose, until the stomach becomes accustomed to the acidulated drink. If the discharge continues undiminished, and the eruption does not appear to be affected by those remedies, we must have recourse to alteratives, as sarsaparilla and hydriodate of potash, to active purgatives, if the patient is strong, and to lotions of the nitrate of silver, or of the bichloride of mercury. If there is any inflammatory tendency in the parts, the application of a few leeches behind the ears will be necessary.

REPORTS

ON THE

PROGRESS OF THE MEDICAL SCIENCES,

July—December 1849.

The intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON THE PROGRESS OF PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

BY THE EDITOR.

PART I.—GENERAL PATHOLOGY.

§ 1.—*Zymotic Diseases.*

Cholera.—As a want of space prevented anything like a detailed account of the numerous contributions recently added to the literature of cholera in our last Number, we purpose in the present Volume to remedy the deficiency, by presenting, in the form of a Report, an analysis of such works, pamphlets, and papers as have reached us during the last few months. The appalling mortality which the disease has caused in the metropolis, as well as in various detached country localities, has given to everything connected with it an intensity of interest far exceeding what it had ever before produced; and happy indeed shall we be if we discover in the laborious task which is before us some more definite pathological views, some more logical notions of treatment, than our previous study of the subject has contributed.

In the selection of works for analysis, we have found it impossible to fix upon any particular rotation with reference to the more prominent questions connected with the disease, and we have therefore preferred to notice these works as nearly as possible according to the dates of their appearance, giving precedence simply to bound monographs over the more ephemeral contributions to the periodical press.

1. *Reports on Asiatic Cholera in the Madras Army, &c.* By Samuel Rogers.*—This most interesting series of Reports is a transcript of the experience of nineteen army surgeons attached to the several regiments composing the Madras army, in the years 1828—1844, inclusive, which Reports were originally published in the 'Madras Quarterly Medical Journal,' 1839-44, and have been reprinted in the form of the present volume. Each Report details the circumstances under which the disease appeared, and enters into minute particulars respecting its causes, symptoms, and treatment; the most important points of which the author has collated and analysed.

The first point treated of is the important question of the propagation of cholera. The author admits a specific poison, which acting through the nervous centre, produces its deleterious effects by destroying the vitality of the blood. The seeds of this poison he believes may be dormant in most situations in India, and may be roused into activity by certain meteorological changes brought about by thunderstorms and heavy rain, by crowding bodies of individuals in ill-ventilated apartments, and by effluvia from foul drains. The writers of the various Reports which form the substance of the work have, with one exception, deliberately stated their conviction that the disease is not contagious.

The period of incubation is, according to the testimony of the several reporters, most uncertain; all periods being named, from two to twenty-seven days.

* London, 8vo, 1848.

The author mentions the frequent occurrence of an attack after taking a dose of purgative medicine, especially of neutral salts.

All the reporters urge the importance of sanitary precautions.

Summary of treatment.—The following analysis of the treatment pursued by the several authors of the Reports forms the most important part of Mr. Rogers's volume. Before, however, the various therapeutical measures are mentioned, he refers briefly to the various symptoms, according to their order of occurrence.

The first manifestation of the poison in India is often seen in a peculiar appearance of the countenance, sudden weakness, and vertigo. *Purging* soon follows in most cases, but in the most severe and rapidly fatal cases may be entirely absent. *Vomiting* often occurs simultaneously with the purging, but is in some cases absent. *Cramp* is not seen in general until collapse approaches, when it becomes distressing.

In the majority of cases, the attack was noticed to take place between midnight and four a.m.

In reference to treatment, cholera may be divided into two periods—that previous to, and that subsequent to collapse.

In the first, the object is to check the discharges, to rouse the depressed nervous and circulatory functions, and to prevent the loss of heat. The remedies most frequently employed are noticed *seriatim*.

Venesection has been advocated by many, and generally practised prior to collapse; to be of service, it is to be performed early, and should always be performed in the recumbent posture.

Emetics are generally given, but on no fixed principle.

Calomel in large doses is pretty generally abandoned, but in small doses is used by most Indian practitioners. One of the reporters states that a combination of calomel, quinine, and opium, in doses of four, six, and two grains respectively, given at the outset of the attack, in a glass of brandy, will often check the disease.

Nitro-muriatic acid and opium has been extensively tried, and with the best results. Dose, three minims of the acid, with ten of laudanum, every hour and a half.

Acetate of lead and opium is also of generally acknowledged efficacy in the premonitory stage, combined with capsicum and camphor.

Opium is to be used with caution.

Stimulants are also generally employed.

The testimony of the different reporters tends to prove that little is to be expected from internal medicines when collapse is fully established; in this state, stimulants are stated to be worse than useless.

The *saline* treatment, both by the stomach and by injections, appears to have had a fair trial in India; the latter had the effect, in most instances, of rousing the patient, but the benefit was but transient.

The use of *external heat* is banished by general consent.

Galvanism roused the patients, but had no permanent effect.

Inhalation of oxygen is favorably spoken of.

As regards prognosis, the testimony of the reporters is to the effect that the great majority die who become collapsed, and that the certainty of death is proportionate to the rapidity with which the circulation fails. They state also that many cases which are apparently rallying satisfactorily, relapse without any obvious cause; while, on the other hand, a few hopeless cases appear to recover spontaneously. They consider that no case is safe till bile and urine have reappeared.

2. *Treatise on Cholera.* By Nathaniel Alcock, a.b., m.b., &c.—This

volume is a cholera miscellany, made up of several disjointed papers bearing upon the subject, of very questionable value. The first of these is an address to the public interspersed with fragments of poetry, and written in a style which does not comport with the dignity which should distinguish medical writings. The only portion of this chapter which has more than a local interest, is the assertion that cholera is always preceded by premonitory diarrhœa, for which pills of acetate of lead, opium, and capsicum are prescribed. The main part is made up of a verbatim extract of eleven pages from 'Chambers's Edinburgh Journal,' illustrative of the effects of sympathy.

In the second chapter, which is an address to the Board of Health, several important questions are touched upon. The author here subscribes to the opinion that cholera is not contagious, but at the same time objects to the admission of patients labouring under the disease into the general hospitals, as such a proceeding may, from fear alone, have a prejudicial effect upon the inmates. His reasons for belief in the non-contagion of the disease are the usual negative objections, such as his own personal escape, and that of nurses and Sisters of Charity, observed in the hospital to which he was attached. This subject is still further discussed in a subsequent chapter, in which the author criticises, in no very polite language, some recent writings on the contagion of cholera by Dr. Graves.*

The concluding chapter consists of a critique on the writings of Annesley, Bell, and Greenhow, together with animadversions upon what the author denominates the Tooting massacre. With what object this volume was ushered into existence we are at a loss to conceive, as it does not contain a single new idea, or even a good demonstration of what has been previously known. In his arguments against contagion, as well as against the propriety of bleeding in cholera, the author appears to us to have signally failed.

3. *The History of Cholera in Exeter*, in 1832. By Thomas Shapter, M.D.† —If the nature, mode of origin, and most successful treatment of this hitherto mysterious disease shall ever be unravelled, it will be, we believe, by the accumulation of experience of its behaviour in individual localities, such as has been most minutely accomplished for the city of Exeter, by Dr. Shapter. Works of this nature, however, though indisputably useful, must be to a certain extent uninteresting to general readers, inasmuch as they cannot fail to abound in matters of purely local interest; and we accordingly find in the first part of the present work, many details of the working of the Exeter Board of Health, which may appear tedious, but which we will, nevertheless, venture to say are well calculated to afford to other localities very important assistance in organizing efficient means of resisting the invasion of the disease. We do not propose to give any detailed account of this part of Dr. Shapter's book, which occupies the first twelve chapters, but shall proceed to analyse that portion of it which describes the history of the disease as it appeared in the city of Exeter.

We find that an attack of cholera was, in common with general experience, ordinarily preceded by diarrhœa, varying from a few days' to a few hours' duration. This was succeeded by cramps, and the pathognomonic alvine discharges. Collapse then soon declared itself, with total suspension of urinary, salivary, and biliary secretions. Thirst was urgent. After this state of collapse had lasted from five to twelve hours, the evacuations and spasms ceased, and the patient sunk into fatal insensibility.

Many variations from this general type of the disease were noticed. Some-

* Dublin Quarterly Journal, Feb. 1, 1849.

† 8vo, p. 292.

times the premonitory symptoms were entirely wanting, or consisted of certain indefinite sensations of *malaise*. The actual invasion of the disease was also subject to some diversity; the more prominent symptoms being, in some instances, referable to disorder of the nervous system, in others to the alimentary canal. The symptoms also varied in detail. Instead of cramps, in a certain number of cases, a numbness only was experienced, or a general tremor (a fatal symptom) was observed. The quantity of fluids ejected was various; in some, and invariably fatal, instances the dejections were bloody.

Dr. Shapter also noticed a phenomenon, by which our attention was forcibly arrested at the same period, viz. a development of post-mortem caloricity, accompanied by automatic muscular movements.

From a careful analysis of the reported cases, it appears that death ensued between the eighteenth and forty-eighth hours from the first attack, seventy-two per cent. dying within the former period. In five per cent. death took place within twelve hours. "It may therefore," says Dr. Shapter, "be stated as a general fact, that Asiatic cholera is a disease which runs its course in a few hours; that if fatal, it is generally so within forty-eight hours, and that if death do not supervene before the expiration of this time, the tendency to recovery is so great as seldom to be interrupted."

Dr. Shapter notices the interesting fact, that during the prevalence of cholera, many persons who had not the overt symptoms of the disease were, nevertheless, subject to various unpleasant sensations, as weakness, tremblings, slight spasms, &c., which he considered might be referred to the operation of the choleraic constitution. These cases were not necessarily followed by the severer symptoms.

In studying the influence of age, sex, &c. on the disease, Dr. Shapter remarks, that the opinion that infancy and old age are exempted is a fallacy, and arises from an imperfect mode of viewing the subject. The influence was inconsiderable.

In addressing himself to the pathology of the disease, Dr. Shapter expresses his belief that collapse is not due to the discharges, as it ensued, on the one hand, in many cases in which the purging had not been profuse, and on the other hand, the larger proportion of cases which terminated favorably, were marked by excessive profluvia; for this reason he regards them as an attempt to expel the *materies morbi*. His view of the cause of collapse is, that it is due to a general internal visceral congestion, induced by some condition of the ganglionic nervous system.

Concerning the mode of propagation of cholera, the author expresses his opinion that it is of epidemic or aerial origin, but is capable, under certain circumstances, of being contagious.

In reviewing the treatment followed in Exeter, Dr. Shapter states, that lime-water and milk was found especially useful in allaying slight irritation of the stomach. Mercury, freely used, both externally and internally, was attended with the greatest advantage. Bleeding was useful in the early stage, but when collapse was fairly established it was injurious. The saline treatment was not successful, neither was that of emetics. On the whole, the most promising plan appeared to be, to give ether and ammonia at the commencement of the symptoms, together with 5 gr. of blue pill, and $\frac{1}{8}$ gr. of opium, every half hour, to take a small quantity of blood, and to be assiduous in the use of stimulating frictions. Cold water was freely permitted.

We have thus given a brief account of the more practical portions of Dr. Shapter's volume, and conclude, by expressing our hope that his example will ere long be followed by many other histories of Cholera. Much of the

detail might, we think, have been omitted without detriment to the value of the book, but on the whole, it forms an interesting addition to the literature of epidemics.

4. *Report on the Method and Results of the Treatment of Malignant Cholera, by small and freguently-repeated Doses of Calomel, &c.* By JOSEPH AYRE, M.D. (London, 8vo. 1833.)—This volume was written shortly after the first invasion of cholera in 1833, and would therefore scarcely be entitled to notice in the present Report, were it not for the interest which attaches to it from the discussion to which the method of treatment advocated in its pages has recently given rise. To this discussion we shall revert at a future page.

The volume itself consists of five chapters, devoted to the consideration of the symptoms, causes, pathology, and treatment of the disease respectively, with the addition of a certain number of cases, illustrative of the peculiar treatment advocated. There is nothing to detain us in the first two chapters, which we may dismiss with the simple statement, that the author is a non-contagionist, and has handled such facts in the history of the progress of the disease as appear to support that doctrine, with considerable ability; but his chapter on the nature of cholera requires more lengthened notice, as upon the, as we must consider, erroneous views there advocated his treatment by repeated small doses of calomel has its foundation. These views are summarily shown in the following conclusions:

1st. That cholera consists essentially in an interruption, and in its malignant form in a sudden and entire cessation, of the secretion of the liver, and primarily, as the results of it, of a congestion of the portal circle or secretory system of the liver; and in the malignant kind, successively of those veins of the abdominal viscera and vertebral column, whose venous circulation is associated with them.

2d. That the congestion of these important systems of veins becomes a cause of a diminution, and at length, in the malignant type of the complaint, of an entire suppression of the secretion of the kidneys, and of a congestion of the vessels of the chest, at the same time occasioning violent contractions of the voluntary muscles, with a disturbance of the nervous system. That from this state arises a great and general abeyance or collapse of the vital powers, and an interruption to the course of the blood through the capillary vessels, &c.

3d. That, besides the physical interruption caused to the circulation, there is an interruption of the chemical changes of the blood, and a retention of noxious and excrementitious principles, which it is one purpose of the kidneys and liver and lungs severally to effect.

4th. That beside the general effects in the system, the stomach and bowels become especially affected with a morbid irritation in their capillary system, which is caused in obedience to a law of the system, by which the congested state of the veins becomes an indirect stimulus to the arteries of the organs implicated in it.

5th. That the final cause of these efforts of nature seem to be, to overcome the congestion; while, pending the effort, and in default of succeeding in it, an increased current of blood is driven into the exhalant extremities of the mucous surfaces of the stomach and bowels, and a copious muco-serous secretion is profusely poured out from them.

6th. That in the cases where the congestion terminates spontaneously and *favorably*, it is by a renewal of the secretion of the bile, and frequently, in the English or common type of the complaint, by such a sudden and copious discharge of it as to occasion a copious purging and vomiting of that fluid.

7th. That where this remedial reaction does not take place, and the powers

of life are not overwhelmed by the congestion, this latter state becomes wholly relieved by an increased action taking place in the capillary system communicating with the congested veins, and an inflammation becomes established in the mucous tissues, and a fever as resulting from it, which, relatively to the stage of collapse, is appropriately termed consecutive, but which differs not in its nature and results, excepting in intensity, from the common bilious fever of this country.

8th. That this inflammatory action succeeding to the simply increased one in the mucous tissues of the stomach and bowels, becomes a remedy to the *serous* dejections and vomitings, and to the blue or collapsed stage, and is thus a remedy, though a morbid one, to the congestion which caused them; while the bowels become constipated, the urinary secretion restored, and the alvine discharges changed from their whey-like appearance, and perfectly fluid state, to the colour and consistence of tar.

9th. That the remote cause of the foregoing pathological conditions consists in a morbid irritation primarily set up in the stomach and bowels by a certain malaria, assisted by unwholesome ingesta; that the malaria is of a specific natnre, and generated in certain localities conspicuous for defective drainage and other definite peculiarities, and modified or wrought into its state of malignancy by certain concurrent unappreciable conditions of the atmosphere; that the specific malaria thus modified exerts its influence chiefly in localities where it is generated, and upon persons predisposed by habitual disuse of animal food, and by the intestinal derangement consequent upon the use of vegetable and acescent food."

As we have mentioned in the commencement of this notice, the present volume contains the opinions of seventeen years since; but as it has recently been reissued without revision, we are bound to presume that the author has seen no reason to modify his opinions upon the evidence of his more recent study of the disease. It is evident that he regards malignant cholera and the ordinary autumnal cholera of this country as identical, differing only in severity, and that both originate in deficient or suspended secretion of bile. It is beside our purpose to examine the corrcctness of this opinion as regards British cholera, but in reference to the malignant form of the disease, such a view is, in our opinion, fatally objected to by the following facts:

1st. That in the more severe form of Asiatic cholera, as it is not unfrequently witnessed in India, the patient is struck with death at once, without time for the production of vomiting or purging, and therefore without evidence of hepatic disturbance.

2d. That in the post-mortem investigations of the disease, as reported by Dr. Gairdner (vide *infra*) and M. Raikem, so far from there being any deficiency of bile, the gall-bladder is constantly found gorged with the secretion, the defect being rather in its transmission through the duct, than in its non-elaboration.

3d. That though recovery is coincident with the reappearance of bile, there are no substantial reasons for supposing that such reappearance is the cause of the amendment rather than the effect.

We now come to the treatment of the disease. As may be presumed, from the author's theory of the disease, his main therapeutic object is to restore the supposed suspended hepatic secretion, and calomel is the remedy charged with the mission. In the *premonitory* stage, the practice is to give a grain of calomel, with two or three drops of laudanum, every half hour or hour, for six or eight times in succession, and then every six hours for a short period. If the disease proceeds, the calomel is repeated at shorter intervals. In the stage of *collapse*, the same dose of calomel, with a single drop of laudanum, is

given every five minutes. In some cases two grains are given. In giving this medicine, Dr. Ayre admits of no limit but that of the collapse; as long as this continues, the medicine must be assiduously given, but as reaction ensues, the interval between the doses may be lengthened. No ill effects have been seen to arise from the quantity given, and no other treatment is associated with it beyond mustard cataplasms.

The consecutive stage, which the author considers to depend upon the occurrence of inflammation in one or other of the previously congested tissues, is treated by general or local bleeding or blisters, and the use of the mildest purgatives.

In expressing our general opinion of the merits of Dr. Ayre's book, we may state, that while we have no reason for refusing to his method of treatment the credit of being as good at least as any other which has been promulgated, we feel bound to dissent *in toto* from the views which he has taken of the nature of the disease, and consequently from the *rationale* of his treatment. We are also somewhat surprised that the author should have allowed the re-emission of his volume without subjecting it to such revision and appending to it such additions as have been rendered indispensable by the recent investigations into the nature of the pestilence both at home and abroad. By this omission he has passed over an opportunity of materially increasing the value of his publication.

5. *On Cholera and Intermittent Fever.* By Dr. Charles Bell.—During a residence in Persia, the author of this brochure witnessed cholera in such variety of forms, that he was led to entertain peculiar views respecting it. These views he has embodied in two lectures, which appeared at the time in the pages of the 'Provincial Medical and Surgical Journal,' and which we have now before us in a separate form.

The main object of these lectures is to enunciate a theory of the analogy of cholera with other diseases of an intermittent or remittent type, but more particularly with ague. This is attempted in the first lecture, by showing that it is not a disease *sui generis*, but one of the large class produced by malaria. The primary action of this poison is pronounced to be upon the sympathetic system through the blood, but not on the blood itself, wherein it differs from poisons of an animal nature. The author argues that the changes which take place in the blood during cholera do not militate against this view of its origin, as these changes are not primary but secondary effects of disturbance in the pulmonary and systemic capillaries, by which the blood is prevented undergoing the processes necessary to health.

Having endeavoured to prove that the effect of the poison is not originally but only secondarily on the blood, the author proceeds to consider the great characteristic of malarious diseases in general—viz. that of periodicity. Having shown that the first stage of disease is alike in cholera and ague, Dr. Bell next argues that they are alike as to periodicity of action. It is shown that, in ague and in cholera, the first link in the chain of morbid action is an apparent cessation of capillary circulation; and, as a consequent in the vital changes to which the blood is submitted in those vessels, animal heat is not evolved, and the blood flows slowly through the minute veins, adhering to their coats, and instead of remaining fluid, assumes a half-coagulated condition, as if the interior coats of the vessels had lost a portion of their known power to maintain its fluidity; that the veins, instead of being gently distended, contract, as in death, and reject their contents. Such is considered the first condition of the cold stage.

It is then shown that the direct effect of this first condition, and of the continued rejection of the blood from the capillary circulation, is its accumu-

lation in the great sinuses and venous organs of the chest and abdomen, oppressing the action of the right side of the heart, deranging the circulation, and impeding the functions of the principal vital organs, and diminishing the quantity of arterial blood distributed to every part of the body; therefore, as upon this the life of the whole body depends, destroying vital action, and causing collapse and death.

But to this fatal effect of derangement of the capillary circulation and consequent congestion, it is shown that the system does not always submit without a struggle, although such is the history of those almost instantaneous deaths from cholera sometimes met with. On the contrary, when from the above cause the cavities of the heart and spleen are distended, the immediate effect is that produced by the distension of any hollow muscle—viz. stimulus to contraction. This becomes a source of excitement to the heart, and finally, through the sympathetic, of restoration of capillary circulation.

The author submits that in ague shivering indicates the commencement of reaction, and that heat soon follows, and recovery *pro tempore* occurs, but that in cholera mere reaction does not suffice to relieve the heart, without some evacuation which lessens the quantity of blood, such as bloodletting; the usual and, as Dr. Bell states, the natural mode of relief is by purging, and he accordingly looks upon the intestinal evacuations as salutary rather than not.

In the second chapter, Dr. Bell investigates the connexion of cholera with other epidemics more narrowly, and gives an interesting account of the manner in which these were seen gradually to merge into perfect cholera. He then briefly recapitulates his views as follows:

1st. An attack of cholera begins and essentially consists in disordered capillary circulation.

2d. That congestion is an effect of this condition, and the cause of the other symptoms and death.

3d. That diarrhœa is a natural mode of relief to congestion, and thereby tends to the prolongation of life.

4th. That each period of twenty-four hours in every attack of cholera which lasts beyond that period, is marked by—1st, a period of capillary disturbance; 2d, a period of congestion; 3d, a period of comparative capillary relaxation and partial reaction; and 4th, a period of renewed capillary disturbance and congestion, commencing at the end of twenty-four hours, not from the first purging, but from the first capillary disturbance.

5th. That the fourth day after the occurrence of algide symptoms is not characterised by a return of congestion, but the disease then goes on to consecutive fever.

The author's views of the treatment of cholera are founded on his theory of its malarial origin. Of bleeding he speaks favorably, performed at the very commencement of congestion; later than this it is prejudicial. To attempt to rouse the heart by internal stimulants and external warmth, is, according to him, equally fruitless and unphilosophical; so is the attempt to restrain the diarrhœa by direct astringents. With respect to the calomel treatment, he states that it may be beneficial if it acts as a purgative, but that its constitutional action is invariably injurious, and tends to induce consecutive fever.

The method of treatment advocated by the author, may be given in his own words:

"If asked what I should do in a case of cholera, I should answer that that depends very much on the stage in which I found my patient; but in all cases and in all stages, I should certainly give a largely-diluted solution of some salt of iron and quinine, with a view to counteract the morbid inactivity

of capillary circulation, and repeat it as often as the patient would drink of it till warmth was restored. If called to one of those cases of sudden collapse, with little vomiting and purging, I should be satisfied that mechanical assistance was required to relieve actual congestion, and if I arrived sufficiently early, would open the veins of both arms. If, however, I arrived too late to bleed, I should not hesitate to conjoin Epsom salts with the mixture, however heterodox such practice may appear, because such cases are generally without purging, and purging is a safer and more direct source of relief than bleeding late in such a case; and I have followed this practice largely with success. I should neither give stimulants, nor apply heat; should limit external applications to a blister or tincture of capsicum to the spine; be careful of disturbing my patient unnecessarily, and endeavour thus to carry him over the first twenty hours with life. If his condition was then such as to give little hope of his being able to sustain a fresh attack of congestion, I should risk everything to obtain blood, to such an amount that the colour should become florid and its motion free, and should continue the medicine till the secretions were re-established."

In the consecutive fever he advises calomel purges and the wet sheet, leeches to the epigastrium, &c.

6. *The leading Phenomena of Epidemic Cholera.* By Ambrose Blacklock, h.i.c.s. (1848).—The peculiar opinions entertained by the author of this pamphlet are, that the disease is caused by a disturbance of the electrical condition of the body, by which the mucous surface of the large intestine is in a positive condition, and secretes acid, while the mucous surfaces of the stomach and bronchial tubes and the skin are in a negative state, and secrete alkali. The result of this disturbance is a high excitement of the ganglionic system of the abdomen, causing a rapid disintegration of tissues; while the spinal respiratory system is in a state of great depression, and permits carbon to accumulate in the blood. This electrical disturbance of the large intestine he supposes to be due to an absence of sulphuretted hydrogen from the large intestine, while the depressed state of the spinal respiratory system is caused by a want of free electricity in the atmosphere.

The earliest lesion incidental to cholera is affirmed to be the production of a pustular eruption in the large bowel, the maturation and discharge of which, together with acid serum, constitutes the "rice-water."

The remote cause of the disease is supposed by the author to be the habitual use of a diet deficient in sulphur, the result of which is the want of the sulphuretted hydrogen required to preserve the colon in its normal electrical condition. This hypothesis he endeavours to substantiate, by an inquiry into the staple food of the countries most liable to cholera. All the phenomena of cholera are regarded as secondary to the intestinal irritation.

We have not space to follow the author through the ingenious train of reasoning by which he endeavours to support the above opinions, but must content ourselves with a very brief *exposé* of the principles of treatment which he considers are evolved from them.

Of general bloodletting, he observes that it is only admissible where there is a decided plethoric condition, and should be suspended as soon as the heart's action becomes less laboured. As a preliminary, he advises the attempt to relieve the central organs, by confining the blood in the extremities by tape ligatures.

To arrest the colonic excitement, he advises enemata of hydrosulphuret of ammonia, one ounce to the quart of water. He believes it to be useless to endeavour to control the evacuations by astringents; the only way to do this he conceives to be by restoring the normal electrical conditions, the disturbance

of which has given rise to them. For this purpose, as well as to restore heat, he recommends the use of electricity. Opium is pronounced to be a poison. Of calomel, he states that it is useful only as the cholera symptoms are subsiding; before this, it is useless.

When the cramp and vomiting and purging have ceased, he gives a drachm of sulphur; two hours afterwards ten grains of calomel, with two of opium.

His suggestions for the prevention of the disease are based upon the hypothesis of the deficiency of sulphuretted products. Accordingly, he uses sulphur as a prophylactic, and urges the employment of a diet rich in sulphurous ingredients; with such he bids defiance to the epidemic.

7. *Contributions to the Pathology of Cholera, with the history, modifications, and treatment, as it appeared in the Bombay Presidency, from* 1818 to 1842. By James Bird, m.d.—The first part of this pamphlet appeared in the pages of a contemporary about the time that the disease was expected to make its second visit in this country, and had for its object to point out the close alliance of the disease with malarial fever. The author's observations are arranged under five chapters. In the first he gives a minute and accurate history of what by many is supposed to have been the first outbreak of the disease in 1817, embracing an account of its progress from that period up to the year 1842, during the whole of which time the author appears to have had the malady, at intervals, under his own personal inspection. The second contains a general description of the disease, as well as of the various modifications noticed by him. Of these he mentions three,—the diarrhœal, the pyrexial, and the asphyxial.

The diarrhœal form appears to be the mildest variety of the disease, and presents an imperfect development of the symptoms proper of cholera. It is this form which is most amenable to treatment, and it is, therefore, of importance to be able to distinguish it from ordinary diarrhœa, which it much resembles. The diagnosis may be made, according to the author's assertion, by examination of the urine, which may be natural in the common autumnal diarrhœa, but will contain albumen, if the case is one of true choleroid diarrhœa. The first announcement of this fact is attributed to Mr. Busk and M. Rostan.

In the pyrexial modification the author considers that the cause has only partially developed its effects, or been followed by temporary cessation of endosmotic function in the pulmonic cells, and partial destruction of calorification. In the asphyxial modification, we have presented the form of disease which is commonly understood under the term cholera in this country. This form is considered under four stages: the first, or premonitory; second, the stage of congestion; third, the stage of collapse; and, fourth, the stage of reaction. The symptoms of each of these stages are carefully enumerated.

The third and fourth chapters are occupied with the post-mortem appearances of cholera, several examples of which are detailed from the author's personal experience; but as these correspond in the most important particulars with the more complete pathological descriptions of Dr. Gairdner and others, presently to be noticed, we shall not further enlarge upon them.

The treatment of cholera is considered to comprise the following indications: first, to allay gastro-enteric irritation, to check unhealthy intestinal action, and to restore the action of the skin; second, to support the powers of the nervous system and heart, and prevent congestion in the lower part of the brain and spinal marrow; third, to restore the biliary and urinary secretions; and, fourth, to moderate reaction, and manage the secondary complications attendant thereon.

In the premonitory stage, the author advises a mustard emetic if the

stomach be oppressed, and there is no spontaneous vomiting. He also gives pills of quinine and calomel, with extract of log-wood, every hour or two, according to the urgency of the purging. To these he sometimes joins the use of enemata of acetate of lead. To fulfil the second indication, quinine is combined with iron, camphor, and opium, and followed every hour by draughts containing bicarbonate of potass and nitrous ether. Sinapisms to the spine are also useful at this time. In the treatment of collapse the author has nothing to suggest beyond galvanism and saline venous injections. The stage of reaction is to be treated on general principles.

8. *Account of the Origin, Progress, and Treatment of Cholera in the Mississippi Valley, &c.* By Lewis Shanks, M.D.*—This communication presents a well-digested history of the disease as it appeared in the city of Memphis and its neighbourhood, but does not contain any features of peculiar interest. The author, though on the whole a non-contagionist, is constrained to admit that the disease may occasionally exhibit an infectious character, the conviction being forced upon him by the repeated instances in which the disease appeared at the different towns on the river-side, consequently upon the arrival of steamboats from infected localities. In the treatment of the disease, he relies chiefly on a combination of calomel, opium, camphor, and capsicum. The doses of calomel increasing, according to the severity of the symptoms. In the stage of collapse from twenty to forty grains were the ordinary dose. He differs from the majority of recent writers in advising large doses of opium.

9. *Report upon Cholera at Glasgow in* 1848-9.—This Report is an elaborate production, and is highly creditable to the industry and analytical talents of the author. After some remarks as to the concatenations of symptoms which should be considered as characteristic of malignant cholera, Dr. Adams comments upon each *seriatim*.

Diarrhœa was an essential symptom. It was at first feculent, and afterwards assumed the rice-water appearance. What has been termed premonitory diarrhœa was far from being so general as has been represented, and was observed to be of less frequency in the commencement than at the close of the epidemic.

Urinary secretion.—This was suppressed generally, but not universally. The coma, in the stage called consecutive fever, the author believes to be produced by the non-elimination of urea. He also notices the fact that the urine first secreted is albuminous.

Vomiting was the only symptom conjoined to purging in 26 per cent. of the cases.

Spasms were the only symptom, except purging, in three instances, none of which proved fatal. Children under ten were seldom cramped; in four cases severe spasms occurred during convalescence.

Pulse.—The most interesting fact connected with the examination of the pulse is that of the pulseless cases (164 out of 294); the mortality was 81 per cent., while in those in which the pulse had not disappeared, it was only 15 per cent.

Secondary fever.—This phenomenon is traced by the author to inflammation of the mucous membrane, or congestion of the kidneys. He refuses to admit the febrile theory of cholera, which he considers as the hot stage of a febrile paroxysm.

The author could find no facts to warrant the idea of contagion.

On the subject of treatment, the author expresses himself in the following terms:—

* American Journal of the Medical Sciences, July 1849.

"To the practical physician this is a most important topic, and one to which he is most likely to turn his attention, yet I am obliged to confess, with great regret, that my experience of the effects of medicine has been almost entirely of a negative character. I have certainly seen good effects resulting from treatment in the premonitory stage (when there was any) and in that of reaction; but I cannot say that I ever found remedies of unquestionable benefit in that of collapse. In this stage, Nature, with as little assistance from art as possible, proved the best physician.

"But to pursue some kind of order, I will take up the several choleraic diseases *seriatim;* and, 1st, with respect to diarrhœa alone. This, when simple, was usually treated with sugar of lead and opium, and when of a rice-water character, with calomel and opium. This mode of treatment was very effective; for only two cases of rice-water purging proved fatal, and only nine lapsed into malignant cholera, notwithstanding the employment of the remedies just mentioned.

"2dly, With regard to what I have described as true or malignant cholera. In this form of the malady I essayed the several plans of treatment recommended by the best authorities, but in no instance could I flatter myself with the belief that my efforts had been conducive to the recovery of the unfortunate sufferers.

"In all cases I used external heat,—sometimes in a moist form, thinking thereby to supply fluid to the thickened blood; and at other times in a dry form. I occasionally gave calomel in large doses, combined with opium, and afterwards frequently repeated smaller ones with or without opium, according to the intensity of the collapse. In some instances, particularly when the spasms were severe, I abstracted blood from the arm, and employed chloroform inhalations for their relief. When the pulse was absent or feeble, I gave as a stimulant carbonate of ammonia; and I always permitted my patients to drink plenty of fluids, taking care, however, that they did not take too much at one draught.

"I consider it unnecessary to burden this Report with an enumeration of the other remedies to which I occasionally had recourse, for I never saw them doing any good. I cannot, however, omit mentioning, that many of my patients took no inward medicine at all, and yet that the mortality was not in their cases greater than in those which were treated actively and with unremitting attention. All this leads me to be much astonished when I read of the marvellous effects attending the employment of the same remedies in the hands of others, and tempts me to believe that the disease, as seen by them, was very different indeed from that which it was my painful lot to witness.

"I cannot quit the subject of treatment in this the stage of collapse without making a few observations upon the effects of alcoholic stimulants, and upon the most advantageous mode of applying external heat. At the outset of the epidemic I gave brandy and whisky freely, but these remedies, if worthy of that name, were soon discarded. They invariably increased the irritability of the stomach; and when the patients to whom they had been administered recovered, a secondary fever, depending evidently on gastro-intestinal irritation and biliary derangement, protracted, in most instances, the period of convalescence. I cannot say, however, that either of these results followed upon the internal exhibition of carbonate of ammonia; and from this I infer that it is a less irritating stimulant than those I have been condemning.

"With respect to the best mode of applying external warmth, at first I was prepossessed in favour of using it in a moist form, believing that the fluid might be absorbed by the cutaneous vessels, and the loss of the aqueous por-

tion of the liquor sanguinis taking place by the bowels in this way resupplied; but it never appeared to me to answer this intention. I observed that the plan of enveloping my patients in a blanket wrung out of warm water was very disagreeable to their feelings, as evidenced by the efforts which they made to throw the coverings off, and to instinctively, as it appeared, expose as much of the integumentary surface as possible to tho atmospheric air. Now, we know that the skin is an important medium for aerating the blood, and we also know that the natural instincts frequently come into play, particularly in a state of disease. An observing physician should therefore never despise their dictates; and when he sees individuals, as in this instance, with their blood in a highly carbonized condition, seeking to expose it to the action of the atmosphere, he should, instead of hermetically wrapping them up in wet blankets, rather strive to favour the admission of air to this fluid through every available channel, taking care, however, to supply it sufficiently warm so as to answer a double object.

"With regard to what may be called the sequelæ of the disease, as these were not always the same, the treatment was of course varied to suit the pathological condition which the symptoms appeared to indicate. When the urine continued to be suppressed, blood was drawn by cupping from the lumbar region; blisters were applied there, and diuretics administered, particularly such as have been considered to possess the power of increasing the solid constituents of this secretion, as, for example, colchicum. I am not sure, however, that the latter, in any case, had this effect. The urine certainly sometimes reappeared *post hoc*. But it occasionally did so without the use of any such agent, and it would therefore be assuming too much to assert that it was *propter hoc*."

10. *Three Lectures on Cholera.* By Dr. Chambers.*—These lectures were originally delivered in 1832; but subsequent experience and reflection having served to confirm the author in the views then promulgated, they have been republished without alteration. The most striking opinion expressed in these lectures is, that the disease is not one of recent origin, but that it had been known as far back as the time of Hippocrates, and by him described as having raged at Athens. He also considers that it is alluded to by Aretæus, Celsus, Aurelian, and in later days by Sydenham and Morton. Having strengthened this opinion by quotations from the several writers mentioned, the lecturer proceeds to give a description of the disease, dividing it into the usual stages.

The author is one of those who admit the analogy of cholera to malarial fever. The first influence of the poison he believes to be on the ganglionic system of nerves, which are affected with a transient excitement of greater or less intensity, followed rapidly by prostration of their powers. The changes in the blood he considers to be secondary. He is a vigorous opponent of the theory of contagion, holding that "cholera is entirely an endemic or atmospheric disease, visiting in a certain cycle all known and habitable countries."

The treatment sanctioned by Dr. Chambers is that of rousing the nervous system directly by stimulants, and at the same time relieving the circulation by bloodletting. Calomel in large doses is also noticed as a sedative, especially when abdominal spasm is severe; but it is not given with reference to the production of its specific effects. The secondary fever is treated on the same principles as regulate the treatment of typhus.

[We have thus endeavoured to give a rapid but accurate survey of some of the recent writings on cholera which embrace the *general* questions connected

* Medical Gazette, Feb. 1849.

with the disease; we have now to pass on to the notice of those which are confined to certain *special* inquiries, and in doing this we shall first mention the subject of the *causes and mode of communication of cholera.*

In reference to this important question, we have to mention communications by Dr. Parkes, Dr. Snow, and Dr. Budd.]

11. *Inquiry into the Bearing of the Earliest Cases of Cholera in London during the present Epidemic, upon the strict Theory of Contagion.* By Edmund Parkes, m.d.*—The object of this inquiry is to decide, so far as is practicable, the much-debated question of contagion by an investigation of the history of a given number of the earliest cases of cholera which occurred in London during the recent invasion of the disease. The result has been negative as regards any advance in our knowledge of the etiology of the disease; but the author has succeeded in demonstrating thus much: that the occurrence of these cases could not be accounted for either on the strictly contagious theory, which involves the necessity of actual contact, or at least approximative presence with an infected party, nor upon the modified theory which admits of the potentiality of the poison at longer distances.

12. *On the Mode of Communication of Cholera.* By Dr. Snow.—Dr. Snow is a staunch advocate of the contagious nature of cholera, but so far differs from the generality of those who entertain the same doctrine, that he assigns the ingestion of the morbific matter into the alimentary canal as the mode of intoxication (we use this word in its strict sense), rather than that by the agency of the lungs or skin, as is usually implied. Dr. Snow, in fact, supposes that the choleraic poison is generated in the intestinal canal, and being evolved in the choleraic discharges, gains admission from the sewers into the pipes or other contrivances for supplying water to the public. In support of this view, he introduces the instances of two localities in which cholera has proved unusually severe, and in both of which there was satisfactory evidence of the intercommunication of the drains and the receptacles for the water consumed by the inhabitants. It is but fair to Dr. Snow to state that he does not bring forward these views as a matter of certainty, but as containing a greater amount of probability in their favour than any other, in the present state of our knowledge.*

13. *Malignant Cholera; its Mode of Propagation and Prevention.* By Dr. W. Budd.—The author of the present communication, like Dr. Snow, believes that cholera is propagated by means of water contaminated by the cholera poison being taken into the system; but he goes somewhat further than the latter in fixing upon the exact nature of the poisonous agent. In order, however, to be intelligible on this point, it is necessary somewhat to anticipate, in the mention of a subject reserved for a future part of this Report, viz. the discovery of microscopic fungi in the dejections of cholera patients. Dr. Budd has taken an active part in the labours connected with this supposed discovery (we say supposed, for, as we shall see hereafter, much doubt has been thrown upon the correctness of the views of the nature of these microscopic bodies entertained by Dr. Budd and others), and has furthermore carried his researches to the extent of finding the fungi in question both in the water and in the atmosphere of cholera districts. His own convictions upon the connexion of the disease with these bodies are very strong, as will be seen by the following extract from his pamphlet:

"The evidence on which the last averment (that of the infection through

* Reprint from the British and Foreign Medico-Chirurgical Review, No. vii.

† Dr. Snow has published a paper on the same subject in the Medical Gazette, Nov. 2.

the agency of the drinking-water) rests is clear and paramount. It may be seen on all sides, and in a thousand circumstances.

1st. In the fact that, from the mode in which the discharges of cholera patients are disposed of, it is into water (through the sewers) that the poison commonly passes in the first instance, and in the greatest quantity; and that in water, therefore, it must always abound.

2d. In the well-known tendency of cholera to follow the course of streams.

3d. In its known partiality for low levels.

4th. In the striking immunity of persons who only visit infected places, without eating or drinking in them.

5th. In the singular concentration of the disease in certain localities, while the inhabitants of the immediate neighbourhood remain healthy.

6th. In the successive outbreak of cholera in its most virulent form in different parts of the same town separated from each other by large healthy districts, but between which communicatiou by water may be shown to be direct.

7th. In the great mortality of certain districts, the drinking-water of which is known to be contaminated by the sewers.

8th. In the fatality of the disease in vessels in the rivers of infected towns.

Having thus to his own mind satisfactorily decided on the fungous origin of cholera, Dr. Budd proceeds to discuss the methods of prevention. This, he proposes to accomplish by two simple means, viz., to destroy henceforth all the poison which is generated in the bodies of cholera patients; and, secondly, to prevent such as has escaped from taking effect.

To accomplish the first object, he suggests that all cholera dejections be carefully collected and submitted to the action of some chemical agent destructive to fungous life. The second object is more difficult to attain, and must be fulfilled, by enjoining that persons residing in an infected district obtain their drinking-water from unmistakeably pure sources.

14. *History of Cholera.*—A well-digested and truthful delineation of the origin and progress of cholera is of so much value, that we shall offer no apology for introducing an abstract of the history of the disease, which has recently appeared in one of the daily papers.

The author of this admirable sketch commences his account with the mention of a body of 5000 troops, stationed at Ganjam, who, in 1781, were attacked with a new disease, which destroyed more than 500 men in a single day, and with fearful rapidity. A similar outbreak occurred at Madras in 1782. The next year the same disease appeared among the pilgrims to the shrine at Hcndwar, and received the name of *mordechim*, whence the French corruption of *mort de chien*. No accurate information respecting the disease appears between this period and 1817, when it burst forth in Bengal with great malignity, and with an altered character. This outbreak was observed to be simultaneous with an unusual overflow of the Ganges, by which the low grounds about Jessore were inundated, and, aided by the heat of a tropical summer, gave rise to a continued miasmatic exhalation. After committing immense ravages at Jessore, it made its appearance in Calcutta, being, according to one opinion, imported, according to another, arising spontaneously. From Calcutta, as a centre, it visited and decimated every village within an area of several thousand square miles.

The pestilence now appears to have commenced its migrations in earnest, taking three separate routes,—one to Madras; another, south-east, along the opposite coast of the Bay of Bengal; and a third, westward, along the valley of the Ganges, to Bundelcund, where it encountered the army under the Marquis of Hastings.

From Madras it was imported to Ceylon, and thence again to the Mauritius, by the Topaz frigate.

The south-eastern stream reached Arracan, and having invaded the Malay peninsula, turned northward into China, and eventually reached Mongolia. The western stream, in the same manner, travelled over an immense district, until within thirteen months from its first outbreak, the epidemic had overrun the whole Indian peninsula, and threatened the invasion of the western portions of Asia, arresting its course at the hills forming the western boundary of the basin of the Ganges and Jumna. The pause was but for a short time, as in 1819; the disease overleaped the boundary, and, in the space of two years, attacked with terrific violence the three principal cities in the Persian Gulf. Hence it spread towards Bagdad.

In 1822 the disease resumed its march towards Europe, being, as it appeared, conveyed as far as the shores of the Caspian by a portion of the Turkish army in full retreat, after a double rout, effected by the Persians and this more fatal enemy, the cholera.

At this epoch it first invaded Europe, reaching several parts in the Mediterranean, and attacking Astracan, where it, a second time, seemed to slumber. In 1829, however, it again arose, and with unabated malignity, and, in 1830, had committed such ravages in the Russian dominions that the emperor surrounded Moscow with a military cordon, and enforced a perfect isolation of the sick. This was unavailing, the disease gained the lower portion of the town, and destroyed 3000 persons in six weeks.

We now find it ascending northward, towards Petersburg, whence it spread to Berlin, and, at the same time descending the Don to the Black Sea, reaching Odessa, and eventually Vienna in 1831. Poland was attacked by a stream of pestilence which took an intermediate route.

In this manner we trace it to Hamburgh, where it broke out in October 1831. On the 26th of the same month it was seen at Sunderland, brought, as it was supposed, by an infected ship from the former port. Almost simultaneously with its appearance in Sunderland, it was announced in London (Feb. 1832) and, subsequently, as is well known, spread through the whole country.

We need not trace the disease in its further progress through France, Italy, and until its final disappearance in 1837; we shall simply state in recapitulation that its progress appeared to have there three periods of activity, separated by two pauses. It took two years to overrun India; two to pass through Persia to the Caspian Sea; and two to spread through Central Europe to Great Britain. During two years it paused in its career on the western boundary of Hindostan; during six it smouldered on the eastern verge of Europe. The two southern peninsulas of Europe, isolated in a great measure by the Alps and the Pyrenees, enjoyed a further special respite; nor was it till twenty years after its outbreak in Bengal that this terrible plague had fetched the compass of the habitable globe. In its westward progress the disease was observed to have added to its former terrors a new and most destructive feature—the consecutive fever—of which thousands perished after surviving the stage of collapse.

After lingering in each country attacked for two or three years after the date of its arrival, the cholera subsided in Europe. In India, however, it became endemic, raging yearly for a period of several months, and yearly exciting the liveliest apprehensions lest it should burst its bounds, and again overshadow the whole earth. Nothing, however, was done to prevent a second invasion, or to meet it, if it should occur. The track of cholera had

been abundantly proved to be that of typhus, both diseases attacking persons debilitated by overwork, insufficient diet, damp, crowded lodging, and close, mephitic air. Everywhere the squalid abodes of the poor, and their miserable inmates, had been the chief seats and subjects of the disease. Yet the filth of London was left to ferment in its 300,000 cesspools; the foul, tidal ditches of Bermondsey, Shorcditch, and Lambeth still loaded with their stench the stagnant air; and every year 40,000 more corpses were added to the sodden mass of putrescence on which our metropolis stands. And what is true of London is true also of Moscow and Petersburgh; of Berlin, Vienna, and Paris; of Lisbon, Madrid, and Rome. Everywhere apathy and indolence followed on the subsidence of panic.

Of that apathy and that indolence Europe is at this moment suffering the consequences. The pestilence now raging has pursued, with but little deviation, the track of its predecessor, travelling, however, more rapidly, and committing fiercer ravages than before. Many cities—as, for instance, Petersburgh and Berlin—were attacked at the same season, and even in the same month, in 1847, as in 1830. The same streets—nay, the very same houses—that suffered most severely before, are suffering most severely now; and towns which, like Birmingham, escaped in 1830, are again enjoying a similar immunity.*

15. *Theories respecting the Origin of Cholera.*—The medical as well as the lay journals have, within the last few months, teemed with communications on this all-interesting subject; but the main question may be compressed into the consideration of the following five hypotheses—viz. the zymotic, the telluric, the electric, the ozonic, and the fungoid.

The *zymotic* theory, we need hardly say, conceives the disease to arise and be propagated by the entrance of a poison into the blood, and its subsequent development by a process analogous to fermentation.

The *telluric* theory supposes the choleraic poison to be an emanation from the earth, and its advocates rely on the fact that the disease has never been known to prevail on shipboard, with the presumption that the parties attacked contracted the disease ashore.

The *electric* theory is supported upon certain facts which have recently been ascertained, in reference to the modifications in the state of atmospheric electricity; which modifications, as they have been coetaneous with the outbreak of the disease, are regarded to hold the relation of cause and effect.

The *ozonic* theory, which has been recently started, attributes cholera to an alleged *deficiency*, and influenza to an affirmed *excess*, of ozone in the atmosphere. Ozone is a volatile product, composed, like water, of hydrogen and oxygen, but having an extra dose of oxygen. Schönbein ascertained that it is developed during the working of an electrical machine; and it is said to be produced naturally in the air by an unexplained action of the atmospheric electricity on moisture. This ozone has the property of oxydizing, and so deodorizing, all putrescent exhalations, and besides its purifying effect on the air, it is supposed to promote the decarbonization of the blood in the lungs, and to stimulate, by a free supply of oxygen, the performance of the vital functions. When ozone is deficient, it is said the blood remains unrelieved of its carbon; the organs of secretion, deprived of their natural stimulus, cease to act; the air becomes loaded with putrescent exhalations; in a word, all the conditions of cholera are fulfilled, and an epidemic outbreak ensues. A superabundance of ozone, on the other hand, is supposed to irritate the mucous lining of the respiratory organs, and so to produce epidemic catarrh. Birmingham, according to this theory, escapes cholera because its great fires

* Times.

generate ozone, and thus artificially make good the deficiency in the natural supply. London has suffered from cholera because (according to Quetelet) during three months past, the electric tension has been low, and the supply of ozone consequently defective. This statement is made on M. Quetelet's authority.

The fungoid theory.—This, the latest of the theories of the origin of cholera, has recently occupied much attention, but is, nevertheless, not strictly novel; as, independently of having long since been mentioned as a part of a general theory by which the origin of epidemic diseases is accounted for, it has been assigned to cholera in particular many months back, by Dr. Cowdell, of Dorchester. At the time, however, that this gentleman promulgated his views, they excited little or no attention, nor were they regarded as otherwise than purely speculative, until Messrs. Brittan and Swayne* announced the discovery in the "rice-water" evacuations, and in the condensed atmosphere of infected districts, of certain annular cells of a fungoid aspect, which they determined to be peculiar to the cholera discharges, and not to exist either in healthy evacuations, or in the intestinal discharges of other diseases. About the same time, Dr. Budd published what seemed to be a corroboration of the truth of the above researches, in the discovery of the same bodies in the water of cholera districts. This pamphlet has been noticed at a former page.

The announcement of this discovery was received with an enthusiasm proportionate to the despair which had hitherto surrounded all attempts to unravel the mysteries of the pestilential visitation, and many of the more credulous were quickly disposed to see, in the annular bodies above mentioned, the long-sought *fons et origo mali.* But a short time, however, elapsed before observations of other pathologists were adduced, tending to throw considerable doubt upon the correctness of the opinion which limited the presence of these bodies to cholera discharges, and, consequently, contributing materially to overthrow the new-born theory.

In the first place, Mr. Grove,† though endeavouring to support the views of Messrs. Brittan and Swayne, has unconsciously advanced a serious objection to them in acknowledging that the peculiar choleraic cells are capable of further development, during which they assume a jointed form. Now these jointed forms, as represented in the woodcuts which accompany the paper, are so precisely similar to the torula or yeast plant, that no one would fail to be struck with the resemblance, as has, indeed, been since insisted upon by Dr. Branson‡ and Mr. Herapath.§ We are, therefore, compelled to conclude either that the cells seen by Dr. Brittan and Mr. Grove are different; or, if alike, that they are not peculiar to cholera dejections.

Dr. Basham‖ has also discovered the so-called cholera-cell in the urine of dyspeptic patients, and has furthermore ascertained, that in many specimens of cholera stools they do not exist at the period of dejection, but appear some three or four hours after; thus being manifestly the product of some molecular changes, the result of decomposition.

Again, Mr. Busk considers that he has demonstrated that the large bodies figured by MM. Swayne and Brittan are nothing more than a species of *uredo*, or cereal *smut.* This vegetable parasite is not destroyed by its passage through the alimentary canal, to which it gains access in the bread eaten. The annular bodies he maintains not to be the sporules of this fungus in an earlier stage, but are starch-granules derived from the food.

To this a rejoinder has been made by a member of the Microscopical Society of Bristol,¶ which, while it attributes to Mr. Busk motives which we

* Medical Gazette, Sept. 28. † Lancet, Oct. 20. ‡ Prov. Journal, Oct. 31.
§ Lancet, Oct. 27. ‖ Medical Gazette, Oct. 19. ¶ Lancet, Oct. 27, 1849.

are assured he is far from possessing, fails, we think, to invalidate the statements he has put forth.

The most important document, however, connected with this interesting subject remains to be noticed, viz. the Report of the Cholera Committee of the Royal College of Physicians. This Report, which we shall give with but trifling condensation, as will be seen, points out the errors into which Messrs. Brittan and Swayne have fallen, in supposing the bodies described as in any way characteristic of cholera discharges, and, as a matter of course, therefore, invalidates the theory which has commanded so much attention. The reporters, Drs. Gull and Baly, proceed as follows:

"We propose in this Report to lay before the committee the results of some experimental inquiries on a subject which, within the last few weeks, has engaged much of the attention of the profession. We allude to the discovery of Mr. Brittan and Mr. Swayne, of Bristol, of peculiar bodies in the 'rice-water' dejections of cholera patients, and to the statement that similar bodies had been found by Mr. Brittan in the atmosphere, and subsequently by Dr. W. Budd in the drinking-water of infected localities.

"These observations, on account of their important bearing, if true, on the pathology of cholera, seemed to us to demand a searching examination. We have accordingly given much time and attention to the subject. Having, in the first place, satisfied ourselves of the distinctive characters of the bodies found in the rice-water dejections, we next sought to verify the observations of Mr. Brittan and Dr. Budd with reference to their presence in the air and drinking-water of places infected with cholera. It was necessary that this part of the inquiry should not be delayed, for the epidemic had already reached its turning-point, and it would, before long, have been difficult to obtain favorable opportunities for experiments of a satisfactory character.

"Our inquiries were afterwards directed to the nature and properties of the newly-discovered corpuscles, and to the question of their occurrence in other diseases. In this investigation, we soon perceived that objects totally different had been regarded as identical; but we had arrived at no positive conclusion respecting those which seemed most characteristic of the cholera evacuations, when we received two important communications on the subject from Mr. Marshall and Dr. Jenner.

"Our observations on the air and drinking-water of infected localities, twenty-five in number, gave uniformly negative results. With regard to the value of our experiments, taken separately, it will, we think, appear that many are liable to no objection. Some of those which relate to the drinking-water of infected places are certainly wanting in the conditions which would make them convincing. But when it is considered that Dr. Budd believes he has detected the objects sought for, 'in great numbers,' in such large bodies of water as the Float at Bristol, and the Surrey Canal, and that he represents them as being deposited in the sediment of the water, we shall not be thought unreasonable in having expected that they might be discovered in the cisterns of houses and public institutions in which cholera had prevailed severely, although it had ceased there for some days or weeks.

"Nevertheless, a much larger amount of evidence would have been required to disprove the statements to which our observations refer, had those statements been unassailable from other points; but the facts to be detailed in the subsequent part of this Report will show that the bodies found in the rice-water dejections have no peculiar relation to cholera; and that, if they should occasionally be present in the atmosphere, or impure water, this will not happen exclusively, or even especially, in districts infected with the epidemic.

"We shall now submit the particulars of all the observations to the committee, describing first those on the air.

"*Microscopic observations on water condensed from the atmosphere of infected localities.*—Two methods were employed for condensing the aqueous vapour. One was, to suspend in the air to be examined a glass funnel, nearly filled with a freezing mixture, its lower opening having previously been closed by a cork, and covered with sealing-wax. The moisture condensed on the outside of the funnel trickled into a small phial placed beneath. The second method was to force air slowly, by means of bellows, through a bent glass tube immersed in ice and salt, when the moisture was deposited on the interior of the tube, and collected in a bulb at its lower part. In either way from half a drachm to a drachm of water was readily obtained.

"The water condensed from the air in the several localities, and under the circumstances we have described, was in each case examined by us more than once; but the search for annular bodies, such as those found in the cholera dejections, failed, as we have already intimated. Neither cells, nor rings, nor anything bearing a resemblance to them, could in most cases be discovered. We saw merely portions of gelatiniform matter containing bright points—sometimes finely granular brownish masses, perhaps derived from smoke, and occasionally colourless, transparent particles, of a crystalline appearance, which may have been portions of silicious dust. After the water had been kept some time, chains of delicate oval vesicles, like those of the torula of yeast, but much smaller, appeared in it. These were absent at first, and could not be mistaken for the cholera discs. Equally unlike those discs were the three or four separate oval cells, which, in two instances, were seen in the water when first examined. They had a clear, single outline, and were not flattened.

"The uniform result of these experiments, as of the former series, was negative. No bodies were found which could be regarded as identical with the more characteristic of those discovered by Messrs. Brittan and Swayne in the rice-water dejections of cholera. The objects met with were far more numerous than those seen in the moisture condensed from atmosphere. The sediment, when viewed with a 1-8th inch object-glass of Ross, or 1-16th inch object-glass of Powell and Lealand, presented, besides amorphous matter, an almost endless variety of organic forms, both animal and vegetable. Amongst these were many round or oval cells, of various dimensions, and some separate rings of minute size, colourless and pellucid. The cells had generally very delicate walls and a clear cavity, were never flattened, and often contained a multitude of distinct granules, which, in some instances, presented the molecular motion. Like the rings, these cells were obviously different in their nature from the thick-edged discs which the descriptions and drawings of Messrs. Brittan and Swayne and Dr. Budd had led us to regard as the characteristic corpuscles of the cholera evacuations.

"The negative results of our research in the atmosphere of infected places for objects identical with those just referred to are confirmed by some observations communicated to us by Mr. Marshall. While cholera was prevalent in St. Giles's, he examined the dirt washed from the broken glass of windows, and from cobwebs taken from houses in that district, in which deaths had occurred from four to ten days previously. With a 1-12th inch or 1-8th inch object-glass, he found a vast number of objects, such as particles of silex and soot, hairs, wings, and legs of insects, round and oblong cells of a brownish colour, very dark, spherical, granular masses, probably of a confervoid nature, and fragments of vegetable tissue, amongst which were pieces of spiral tubes, and entire rings, apparently of woody tissue, of an oval, polygonal, or circular form; but he detected no discs with double outline. A microscopic examination of the objects collected on a moist surface from the atmosphere of sewers, gave Mr. Marshall a similar negative result with regard

to those discoid bodies; although he found (besides fine particles of silex and other dust) brown, oval, and round cells, single and in couplets, minute colourless vesicles, either single, double, or in triplets, a single, large, oval cell, and numerous opaque, granular, confervoid bodies, of a brownish or blackish-green, colour.

"*Microscopic observations on the 'cholera fungi.'*—We next proceed to show how various are the bodies which have been confounded together under the terms annular bodies (Mr. Brittan), cholera-cells (Mr. Swayne), and cholera fungi (Dr. Budd).

"On examining the drawings given by the three gentlemen who have called attention to the subject, four principal forms, which can hardly belong to the same objects, may readily be distinguished.

"1st. Rings, which inclose a free area, and which often are broken. These are usually of a minute size, but are occasionally large.

"2d. Globular, or oval cells, chiefly of the middle size, which have a thick wall, with numerous small eminences on its surface, and contain a granular mass, in some instances separated by a clear space from the wall of the cells. These are distinctly figured only by Mr. Swayne, but are regarded by him as perfectly-developed cholera-cells.

"3d. Bodies having apparently the form of discs, with thick rounded edges, and centres of indistinct structure. These vary extremely in size, including some of nearly the smallest, as well as many of the largest, of the objects represented by the three observers. They predominate in all the representations given of the corpuscles of the rice-water dejections, and must be taken as the type of the bodies discovered by Messrs. Brittan and Swayne.

"4th. Large, broken cells, having apparently homogeneous membranous walls, and containing small, well-defined, oval bodies; figured by Dr. Budd as cholera fungi undergoing decay, but differing in character from all the other objects represented.

"A mere inspection of these different figures would suggest strong doubts as to their representing different appearances of really identical bodies in different states or stages of development or decay. The more particular description we have now to give of each kind of body will demonstrate that they are of various and distinct nature.

"The rings, when closely examined, are seen to be of different kinds, some perfectly continuous in their entire circle, others formed by a curled fibre; some round, some oval, others lozenge-shaped. Some of these have been traced to their true source by Mr. Marshall, who has found that exactly similar objects may be prepared by the artificial digestion of the vegetables used as food; such as cabbages, potatoes, and onions, the withered style of wheat grain, and portions of cane in sugar; the spiral and annular tissues of which break down into rings of different sizes, or coils resembling rings.

"Intermediate between these and the third class of bodies are minute oval, or round, colourless corpuscles, which have an annular appearance; but, on a close inspection, are seen to have their area filled up with a transparent substance presenting sometimes perforations. In some specimens of the rice-water fluid, oval bodies, in part having their middle filled up, as here described, and in part mere rings, exist in extraordinary abundance. The rings of these bodies have been observed by Mr. Busk and Dr. Griffiths to be divided by cross-lines into segments, which Mr. Busk thinks are bead-shaped,—an appearance which had occasionally been noticed by ourselves, as well as by Mr. Marshall. They are calcareous structures, originally derived from chalk, in which they abound; and they have been introduced into the contents of the intestines with the medicines (chalk-mixture, aromatic confection, &c.) which

the patients have taken.* These minute bodies from the chalk are, of course, not found in all cases; and we may think it not unlikely that, in their absence, the separated nuclei of animal and vegetable structures, as well as the vegetable rings above described, may sometimes have been mistaken for fungi. The microscopic bodies from chalk are, however, the most striking in their characters; and, we believe, are those which have been chiefly regarded as representing the first stage of the cholera fungi.

"The brown globular bodies, with tesselated surfaee and thick wall, have been clearly identified by Mr. Marshall with the spores of different kinds of uredo, the rust, smut, and bunt of grain; some species of which may be found, not only about the withered style or grains of wheat, but also in almost every specimen of corn and bread. Mr. Busk has made the same observation, and identifies them with the uredo segetum, or bunt.

"Discs, with thick, elevated, and somewhat irregularly-formed margins; the central area flattened, and obscurely granular. They have generally a yellowish or pale brown tint, which varies in depth with the colour of the fluid containing them. These are the most peculiar of the bodies found in cholera, and differ from the rest in being more or less soluble in ether. Mr. Marshall, who first informed us of this fact, found that the smaller discs undergo nearly complete solution, leaving a cavity in the dried mucus, whilst the larger ones leave a fine granular film. They are apt to break across, and the thick margin to curl inwards. They are evidently not cells, nor have they any organized structure which could give them any claim to be regarded as living organisms. On the other hand, their solubility in ether shows that they consist, in great part, of some substance of the class to which the fats, resins, and saponaceous matters belong. This observation led Mr. Marshall to examine different fatty substances, and at length to find that curled concretions, not unlike the discs found in cholera, could be obtained by compressing a piece of rich cheese (with or without the addition of ether) between two plates of glass. We are not yet able to account for the origin of these peculiar discs. Mr. Busk regards them as altered starch-grains. It is, at all events, certain that they are not fungi, and, as we shall afterwards see, that they are not peculiar to cholera.

"Besides these fatty discs, there are sometimes met with yellowish bodies, which might easily be confounded with them, but which are merely rendered more pellucid by ether. Bodies of similar character have been shown by Mr. Busk to arise from a disintegration of the bran of wheat, and Mr. Marshall has independently made the same observation.

"Under the fourth class of bodies, we refer to those represented by Dr. Budd as the cholera fungi undergoing decay and disintegration. They are evidently of a different nature from those figured by him as characteristic of the fresh

* "It is right to state how we arrived at the knowledge of these facts. Dr. Griffiths has pointed out to us that the bodies in question are heavy, polarize light, and are soluble in dilute nitric acid. He suspected that they were oxalate and phosphate of lime. Mr. Marshall subsequently showed us that acetic acid also dissolves them readily, and that sulphuric acid acts on them, producing needles of sulphate of lime. Having ourselves found the same bodies in the evacuations of two patients suffering from typhoid fever, we were examining them in company with Dr. Griffiths and Mr. Marshall, when the demonstration of their calcareous nature reminded us of the fact that these patients had been taking medicine containing chalk, and, at the same time, brought to our recollection the remark made to one of us by Mr. Topping, that Mr. Brittan's 'annular bodies' were to be found in chalk-mixture. Accordingly, we examined a portion of medicine containing aromatic confection, and afterwards a piece of common chalk, and in both found the bodies described above, though not the larger discs, which are also found in the rice-water fluid."

cholera dejections. The mode of disintegration of the two classes of bodies is quite distinct: the so-called cholera bodies, after resisting the action of water for some time, break up into irregular granular masses; whilst the decomposing bodies depicted by Dr. Budd seem to be in part homogeneous, membranous cells, dehiscing, and are perhaps starch-cells. The rings are most probably parts of disintegrate vegetable tissue.

"It is shown by Mr. Marshall, and had before been noticed by Boehm and others, that cells like fungi, or their spores, are occasionally found in the excretions in cholera. These, however, have a more delicate structure than any of the bodies described as characteristic of cholera, and are totally different from them. It is well known that various vegetable forms are apt to become developed in organic fluids generally.

"From a review of the foregoing facts, it is obvious that various bodies found in cholera dejections have been confounded, and described as identical. It is also shown that many are traceable to an extraneous source, and that even the discs placed in our third division are not fungi. The statement that the bodies found in the cholera dejections present an endogenous multiplication has, in all probability, arisen from confounding them with the uredo, or from mistaking the appearances produced by the smaller bodies seen through, or upon, the larger ones, or entangled in their substance.

"We are unable to identify the rings obtained from the air, and figured by Mr. Brittan, with any of the bodies included by him under the term 'annular bodies.' Our own experiments have satisfied us that these bodies do not commonly exist in the atmosphere of infected places; but the observations of Mr. Marshall, on the dirt collected from windows and cobwebs, show the great variety of matters which must be wafted about in the air, in the form of dust, and which might, in different instances, be caught with the condensed moisture.

"The bodies represented by Dr. Budd as being found in impure drinking-water, have the form of discs with thick edges. We have ourselves never seen such bodies in water. But when it is remembered that the contents of bran-cells sometimes assume that form, the occasional presence, in water, of bodies capable of being confounded with the discs derived from the discharges of cholera will not appear remarkable.

"Had the bodies described by Messrs. Brittan and Swayne been proved by the foregoing investigations to be of fungoid nature, yet the facts we have now to add would have shown that they have no necessary connexion with cholera. In the first place, they seem not to be constantly present in the discharges. It is, indeed, remarkable that, in those dejections which, from the absence of colour, have usually been regarded as the most characteristic of the disease, they are frequently absent. We have failed to find them in several instances. In one, a portion of every evacuation was set apart, and examined several times by each of us, and yet in no portion could we detect them.

"A still more important fact, which, from the explanations already given might be anticipated, is, that all the more remarkable of the bodies which have been thought peculiar to cholera, exist in the intestinal evacuations of persons affected with other diseases. Dr. Jenner first demonstrated to us their presence, in great abundance, in the dejections of a patient affected with typhoid fever. We have since verified his observation in five other cases of this disease. We have also satisfied ourselves of the existence of some of the forms in dejections apparently healthy, from two patients in Guy's Hospital, one suffering from bronchitis, the other from early cirrhosis of the liver; and Mr. Marshall has detected small annular bodies 'in the mucus covering the healthy excrement' of several herbivorous animals. It is obvious, that bodies derived from such various sources will not commonly be found all pre-

sent together. This, indeed, is not the case in cholera. The minute bodies, especially, which belong to chalk will, of course, very rarely be met with, except that substance has been taken as medicine.

"We shall now briefly restate the principal results we have arrived at, and submit the conclusion which seems to us justified by them.

"1st. Bodies presenting the characteristic forms of the so-called cholera fungi are not to be detected in the air, and, as far as our experiments have gone, not in the drinking-water of infected places.

"2d. It is established that, under the term 'annular bodies,' 'cholera-cells,' or 'cholera fungi,' there have been confounded many objects of various and totally distinct natures.

"3d. A large number of these have been traced to substances taken as food or medicine.

"4th. The origin of others is still doubtful, but these are clearly not fungi.

"5th. All the more remarkable forms are to be detected in the intestinal evacuations of persons labouring under diseases totally different in their nature from cholera.

"Lastly, we draw from these premises the general conclusion, that the bodies found and described by Messrs. Brittan and Swayne are not the cause of cholera, and have no exclusive connexion with that disease;—in other words, that the whole theory of the disease which has recently been propounded, is erroneous as far as it is based on the existence of the bodies in question."*

16. *Pathological Appearances in Cholera.*—Several memoirs on this subject have recently appeared, the principal of which are two by Dr. Gairdner, and MM. Levy and Tholozan respectively.

Dr. Gairdner's observations were based on the examinations of eighty-nine cases, and gives the subjoined results.

1st. *Previous diseases.*—Cholera appears to have chiefly attacked those in previously good health, or suffering under chronic disease, and to have spared those who laboured under acute or active disease. It appears from these observations, that the idea that cholera attacks chiefly persons of infirm habit, is not borne out.

2d. *The blood* was much less affected than is supposed to be the case in cholera. Its coagulation in the heart and large vessels takes place mueh as in other diseases. It was not darker than in other maladies. The microscope revealed nothing peculiar.

3d. *Congestion* has been overrated in relation to cholera. Though the lungs and right side of the heart were frequently loaded, the liver, spleen, and intestines were mostly paler than usual. The uterus and fallopian tubes were generally engorged, as was also the nervous system of the brain; but these appearances are common to other diseases.

4th. *Ecchymoses* in various situations were characteristic of cholera, to an extent not common in other fatal diseases. They seldom occurred externally, except beneath the conjunctivæ. Among the internal organs, they were most frequent on the intcstinal mucous membrane, especially of the colon; but they were also seen on the posterior surface of the heart, and in the cellular tissue surrounding the cervical vessels, and in that around the dura mater of the spinal canal.

5th. *Glandular secretions.*—There is no evidence that any of these secretions, with the exception of that of the kidncys, is entirely suppressed. With regard to the bile, the non-elimination of which is so much insisted upon, the author found that so far from not being secreted, it was seen in normal quan-

* Medical Gazette, Nov. 2, 1849; also a pamphlet published separately.

tity in the gall-bladder, and in some cases in quantities sufficient to distend that receptacle. He thinks, therefore, that the absence of bile in the evacuations is apparent rather than real, and may be accounted for by its diffusion over so large a quantity of fluid as is evolved in the cholera stools. The liver did not exhibit any microscopic changes.

The kidneys were found in much the same state as after scarlatina. The author alludes to the curious fact which has been verified in Paris, that the urine of convalescents from cholera is, in most cases, highly albuminous.

6th. *Intestinal canal.*—The most frequent abnormal appearance was prominence of the intestinal glands, both aggregate and solitary, but especially of the latter. This condition was found in two thirds of the cases. The ecchymoses which have been already alluded to were circumscribed, and of various depths of colour.

The intestinal contents resemble the stools. On microscopic examination they invariably showed immense quantities of perfect epithelium, which the author considers to be due to maceration after death. He comes to this conclusion from the fact, that the cholera stools do not contain perfect epithelium, and that the scales found in each part of the intestines are precisely those peculiar to those parts.

The stools separate by filtration into a colourless or slightly coloured fluid, of an alkaline reaction, and a flaky sediment. The former has a specific gravity from 1005 to 1010; it does not necessarily contain albumen, but constantly contains an organic matter, with the chemical reactions of mucus. This matter has been called *albuminose* by M. Mialhe.

The flakes have also the ordinary characters of mucus.

7th. *The nervous system* did not exhibit any appearances worthy of remark.*

—The memoir of MM. Levy and Tholozan† is a most elaborate production, but its length is such as to prevent our giving more than a brief *résumé*. The authors consider that they are justificd in considering that there are two main circumstances to be discovered—viz. a general and severe congestion, accompanied or not with capillary hemorrhage, and a peculiar intestinal secretion. They do not consider that either is to be regarded as the predominant morbid phenomenon, but that although produced under the general influence of the same specific cause, they have each an independent progress, and are far from being of proportionate severity. On viewing these lesions with regard to their origin and extent, the choleraic congestion seems to affect an intestinal localization: it appears with the prodromata, and proceeds sometimes slowly, sometimes with formidable suddenness. Its peculiar characters, which they have pointed out, the special alteration of the blood which accompanies it, its preference for the important parenchymatous organs—the heart, lungs, liver, brain, and especially the spinal medulla—lead them to regard it as the phenomenon which best discloses the general action of the morbific cause. They inquire, Does this cause act primarily on the blood, on the nervous system, or on the walls of the capillaries, and on the tissue itself of certain organs which are affected with general or partial softening? None of these hypotheses are believed to be justified by facts. The conclusions to which the most minute anatomical investigations tend, is, that cholera, instead of commencing in this or that system, attacks simultaneously all the tissues, and at the same time exercises a special and undefined action on the blood in the capillaries. But though the verification of all these changes be essential to the pathology of cholera, and to the comprehension of the phenomena of the

* Prov. Med. and Surg. Journal. From Monthly Journ. of Med. Sciences, July 1849.

† Gazette Médicale, July 21, 24, August 4, et seq., and London Journal of Medicine, October.

algide and the torpid periods, it does not aid us to understand the intimate nature of the specific cause which engenders the disease; we see, in our anatomical researches, the effects, and not the cause of the disease. To overcome this difficulty, we must wait till various observers have, in the course of time, contributed the results of their researches on different epidemic affections; then a comparison can be established on a sure basis, and the work of nosological classification may commence.

17. *Microscopic History of Cholera*—The microscope, from which so much is expected in the elucidation of disease, has been employed with great assiduity in the investigation of cholera.

In a paper published in a recent number of the 'London Journal of Medicine,'* the united researches of several microscopists have been collated by Dr. Parkes. The combined results appear to establish the existence of corpuscles, peculiar granules, and an amorphous flaky matter, together with abundance of epithelial cells. The former, Dr. Parkes thinks, will not be confounded with the latter by any practised eye, as they are different in size and physical character, neither does he regard them as mucous corpuscles. On the whole, he is disposed to regard all the flocculent matter, whether cells, granules, fibres, or amorphous matter, as modifications of fibrine.

—An American writer, Mr. Waldo Burnett, in addition to cylinder and tesselate epithelium, crystals of oxalate of lime, &c., has discovered the presenee of myriads of animalculæ of the character of *Vibriones*.† The same phenomenon had previously been noticed by Pouchelt.‡

—The latest microscopic researches are those of Messrs. Brittan and Swayne, to which we have alluded at a former page. We shall here only give a description of the supposed "fungi," as set forth in a recent publication by the Bristol Microscopic Society, together with illustrations derived from the same source.§ (Vide plate.)

The fungoid cells in question vary much in size and structure at different stages of development. The smallest require an object-glass of 1-8th focus, or even higher; they are transparent and flattened, with thickened parietes, which give them an annular appearance. They are without granules (see cut ii, fig. 4, and cut i, fig. 1 *e*). They are identical with those discovered in the atmosphere by Mr. Brittan (see cut ii, fig. 2).

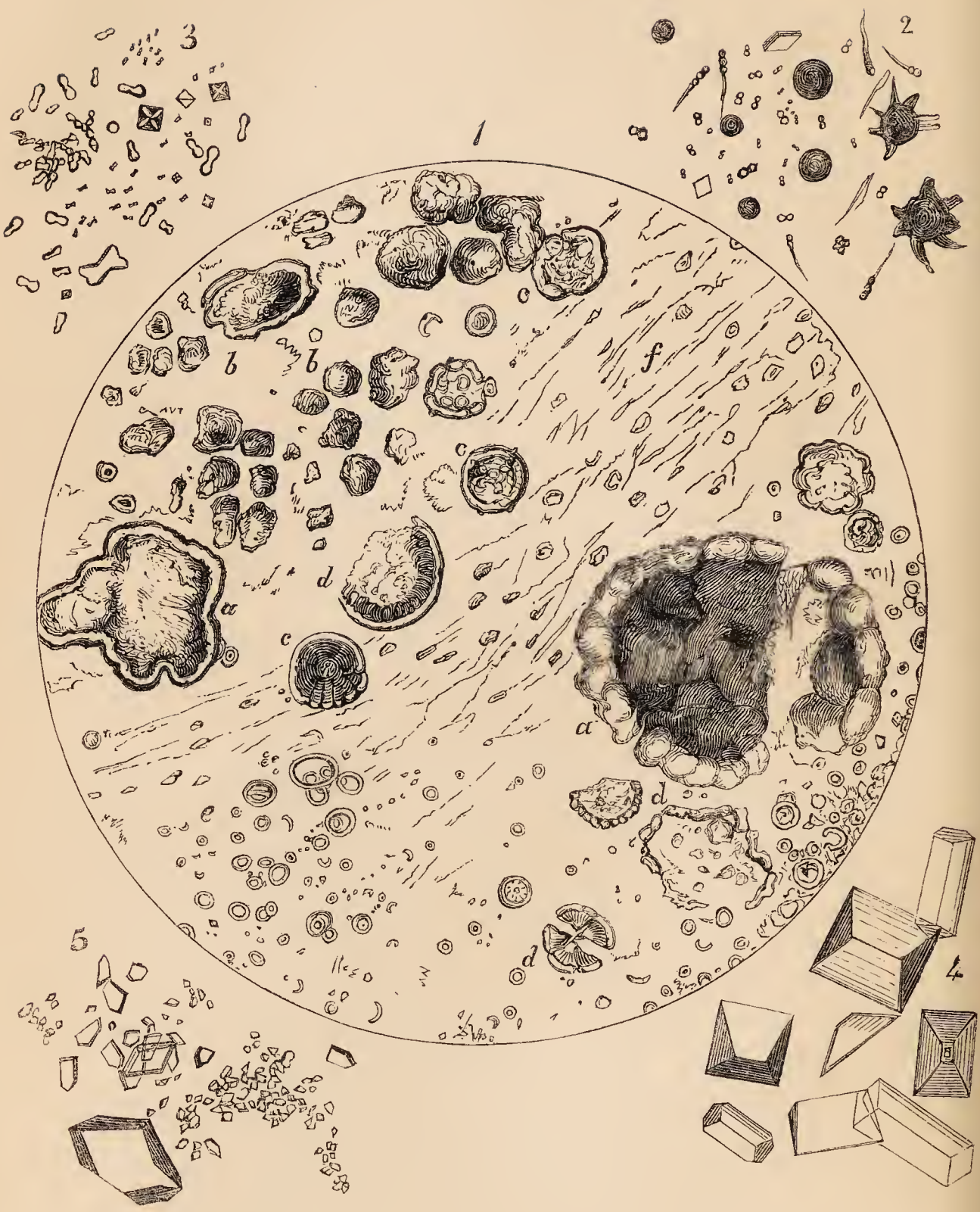
Intermediate between these and the larger cells, presently to be described, there are seen others, which appear as thick, irregular rings, but by altering the focus, show as flattened cells, containing granules. They are represented in cut i, figs. 1 *c*, *d*.

The larger cells are very irregular in shape, semi-opaque, and have lost their annular form; the cell-wall is cellular in structure, and the cell itself contains others (see cut i, figs. 1 *a*, *b*). Mr. Swayne has seen some of the more perfect cells studded with buds or nascent cells (see cut ii, fig. 1 *b*).

[We have thought it right to give these remarks a prominent place in this Report, as a matter of general interest at the present time. The fallacy of the opinion which attributes to the objects described the essential cause of the disease, appears, as we have intimated at a former page, to be, as far as present knowledge goes, satisfactorily demonstrated.]

18. *Treatment of Cholera.*—We now arrive at the most important part of our Report, as well as the one the most difficult to arrange in a satisfactory manner. To mention a tithe even of the communications that have lately

* Feb. 1849.
† Amer. Journ. of Med. Science, July 1849.
‡ Comptes Rendus, Avril 1849.
§ Prov. Med. and Surg. Journal, Oct. 31.



I.—p. 250.

II.—p. 250.

deluged the press, both medical and general, would far exceed our limits, and we shall therefore not attempt to give more than a general account of the more prominent systems of treatment which have recently occupied attention.

The first point which we shall pass under view is the question of *bloodletting* in cholera. In favour of this, we have the testimony of several writers, as may be seen in our preceding pages; but we may particularly notice a communication by Dr. Robertson,* in which its beneficial effects are fully recognised. It will appear from the observations of those who have had the fairest opportunities of judging of the effects of bleeding, that these depend mainly upon the period at which the operation is performed. If blood be taken prior to the approach of collapse, it will often prove beneficial, relieving the obvious tendency to congestion of the internal organs, as well as the thoracic oppression, which is one of the most painful symptoms of the disease. If, however, the patient is bled when the pulse and temperature have fallen to a considerable extent, the impending collapse will not fail to be precipitated. After collapse is fully developed, another period arrives at which blood may be drawn with safety; but again, as soon as reaction commences, to do so is to cause a relapse. In the stage of reaction, when it is excessive, bloodletting, general or local, is eminently efficacious.

Another point which recent experience of cholera has determined, is the impropriety of exhibiting stimulants freely, and the uselessness of external heat. On the contrary, the wet sheet has been employed successfully in many cases, and the cold proves grateful to the patient. The use of ice internally has been strongly advocated by Dr. Arnott.

The great majority of writers agree upon the necessity of suspending the diarrhœa and vomiting as speedily as may be, and for this a variety of medicines have been employed. The balance of opinion seems to be in favour of the acetate of lead as an astringent, combined with cayenne and opium. At the same time, it is considered advisable to exhibit some mercurial. This brings us at once to the consideration of one of the modes of treatment which has excited a large share of attention.

The exhibition of calomel has formed a prominent mode of treating cholera from the earliest period of its outbreak, but it is not agreed as to the best mode of employing it. Many, after the example of the Indian practitioners, give large doses at long intervals; others prefer smaller doses at shorter intervals. Among the advocates of the latter plan, Dr. Ayre, of Hull, has made himself conspicuous, and advises that calomel should be given in two-grain doses, every five or ten minutes, according to the urgency of the symptoms.

This method of giving calomel, which is generally known as Dr. Ayre's plan, has of late created considerable discussion, during which, as in medical discussions in general, anything but a liberal spirit has been evinced. It is indisputable, that whether Dr. Ayre has been too sanguine or not as to its results, he has had the satisfaction of seeing his practice followed and publicly approved, in numerous communications to the medical journals, during the course of the present year.

On the other hand, Dr. Ayre's system has met with many opponents, as well in his own locality, where unfortunately the mortality has been particularly high, as in other places. Among the former we may mention Drs. Horner and Sandwith, Mr. Gibson, &c., and among the latter, Drs. Hughes, Golding Bird, &c. In the communications of the former gentlemen we notice a spirit which, to our mind, materially weakens their evidence; otherwise it would appear certain that in Hull the small-dose system has not

* Monthly Journal, Dec. 1848.

been as successful as is represented, even in cases offering a reasonable scope for treatment. The testimony of Drs. Hughes and Golding Bird is in the strongest manner opposed to the benefit of the calomel treatment, and as it is entirely unprejudiced, must be entitled to the more consideration. Between the two sides of the question it is difficult to decide, and ever will be as long as so little precision is shown as to what constitutes cholera, and as to what stage of the disease is present when the system is carried into operation. It is evident that there will be a very material disagreement between the evidence of one who considers every case of vomiting and purging as cholera, and of another who restricts the term to rice-water evacuations, with tendency to collapse. Again, a wide difference must appear between the success of an individual who has the opportunity of treating his cases before failure of the pulse, and that of another who does not see them till they are lapsing, or actually gone into collapse. It is plain, that until these sources of uncertainty are abolished, there must of necessity be a discrepancy of opinion.

Of the saline treatment, which has divided the attention of the profession with the one above mentioned, we have but little to say. It has found many advocates, and certainly appears even in collapse to rouse the system; but it has too often been found that the rally is delusive. Previous to collapse, it has, next to calomel, appeared the most successful treatment, especially when combined with astringents.

There is one other method of treatment which has not met with the attention which we think it merits; we allude to that proposed by Dr. Bell, of Manchester, in the excellent lectures noticed at a former page. That it has not been more extensively tried has been a matter of surprise, as it is founded upon a theory which, if not correct, has sufficient importance to justify at least a trial. Dr. Strange, of Bridgenorth, has recently reported very favorably of it.*

[We have thus endeavoured to lay before our readers an abstract of the recent contributions to the literature of cholera. We are sensible of its many imperfections, and as conscious of having omitted to mention many, and perhaps some valuable communications. The authors of such must take as an excuse, the extreme labour as well as difficulty of our task, and the utter impossibility of noticing everything within our allotted limits.]

19. *Fever, Malarial—Cryptogamous Origin of.*—We have already incidentally alluded to a work on this subject by Dr. Mitchell,† of Philadelphia, of which we shall now proceed to give an additional notice. The author's observations were originally given in the form of lectures to his class, and would not have received further publicity at the present time, had not the publication of Dr. Cowdell's 'Essay' stimulated him to vindicate his claim to priority. The method in which he treats the subject will be sufficiently shown by the subjoined quotation. After criticising the prevailing theories of the origin of fevers, he decides in favour of the fungus hypothesis on the following grounds. He remarks:

"My preference is founded on the vast number, extraordinary variety, minuteness, diffusion, and climatic peculiarities of the fungi.

"The spores of these plants are not only numerous, minute, and indefinitely diffused, but they are so like to animal cells as to have the power of penetrating into, and germinating upon, the most interior tissues of the human body.

* Provincial Journal, Nov. 28.

† On the Cryptogamous Origin of Malarious and Epidemic Fevers. By J. K. Mitchell, M.D. Philadelphia, 1849.

"Introduced into the body through the stomach, or by the skin or lungs, cryptogamous poisons were shown to produce diseases of a febrile character, intermittent, remittent, and continued, which were most successfully treated by wine and bark.

"Many cutaneous diseases, such as *favus* and *mentagra*, are proved to be dependent upon cryptogamous vegetations; and even the disease of the mucous membrane termed aphthæ arises from the presence of minute fungi.

"As microscopic investigations become more minute, we discover protophytes in diseases where, until our own time, their existence was not even suspected, as in the discharges of some kinds of dysentery, and in the *sarcina* of pyrosis. We are therefore entitled to believe that discovery will be, on this subject, progressive.

"The detection of the origin of the muscardine of the silkworm, and a great many analogous diseases of insects, fishes, and reptiles, and the demonstration of the cryptogamism of these maladies, their contagious character in one species of animals, their transfer to many other species, nay, even to vegetables themselves, all concur to render less improbable the agency of fungi in the causation of diseases of a febrile character.

"A curious citation was subsequently made of the fungiferous condition during epidemics and epizootics. These moulds, red, white, yellow, gray, or even black, stained garments, utensils, and pavements, made the fogs fetid, and caused disagreeable odours and spots, even in the recesses of closets and the interior of trunks and desks.

"These moulds existed even when the hygrometric state did not give to the air any unusual moisture for their sustentation and propagation. Their germs seemed to have, as have epidemics, an inherent power of extension.

"The singular prevalence of malarious diseases in the autumn is best explained by supposing them to be produced by the fungi, which grow most commonly at the same season. The season of greatest protophytic activity is, in every country, the period of the greatest malarious disturbance. The sickly season is in the rains in Africa, in the very dry season in Majorca and Sardinia, in the rainy season of the insular West Indies, and in the dry season of Demerara and Surinam. Even when the vegetation is peculiarly controlled, as in Egypt by the Nile, and the cryptogami are thus thrown into the season of winter and spring, that season becomes, contrary to rule, the pestilential part of the year.

"Marshes are a safe residence by day, whilst they are often highly dangerous by night. In the most deadly localities of our southern country, and of Africa, the sportsman may tread the mass of a swamp safely by day, although at every step he extricates vast quantities of the gases which lie entangled in mud and vegetable mould. This point, so readily explained by reference to the acknowledged nocturnal growth and power of the fungi, is a complete stumbling-block to the miasmatists.

"The cryptogamous theory well explains the obstruction to the progress of malaria offered by a road, a wall, a screen of trees, a veil, or a gauze curtain.

"It also accounts for the nice localization of an ague, or yellow fever, or cholera, and the want of power in steady winds to convey malarious diseases into the heart of a city from the adjacent country.

"It explains also well the security afforded by artificially drying the air of malarious places, the exemption of cooks and smiths from the sweating sickness, the cause of the danger from mouldy sheets, and of the sternutation from old books and papers.

"On no other theory can we so well account, if account at all, for the phenomena of milzbrand and milk-sickness, the introduction of yellow fever

into northern ports, and the wonderful irregularities of the progress of cholera.

"The cryptogamous theory will well explain the peculiar domestication of different diseases in different regions, which have a similar climate—the plague of Egypt, the yellow fever of the Antilles, and the cholera of India. It accounts, too, for their occasional expansion into unaccustomed places, and their retreat back to their original haunts.

"Our hypothesis will also enable us to tell why malarious sickness is disproportionate to the character of the seasons—why it infests some tropical countries and spares others—why the dry Maremma abounds with fevers, while the wet shores of Brazil and Australia actually luxuriate in healthfulness. The prolonged incubative period, the frequent relapses of intermittents, and the latency of the malarious poisons for months, can only be well explained by adopting the theory of a fungous causation.

"Finally, it explains the cause of the non-recurrence of very potent maladies better than the chemical theory of Liebig, and shows why the earliest cases of an epidemic are commonly the most fatal." (pp. 133-7.)

20. *Erysipelas, Alliances of.*—A very interesting paper, exhibiting the alliances of erysipelas with other diseases, has been contributed by Dr. Gull. In this communication he first alludes to the complication of cynanche with common erysipelas, and mentions cases in which the cutaneous affection was distinctly seen to spread from the throat. He also notices the very insidious and fatal termination which sometimes ensues from the extension of the erysipelatous inflammation to the larynx. Diffused suppuration of the cervical cellular tissue is another dangerous ally of erysipelas. The cellular tissue may, he observes, be affected either by extension from the erysipelatous sore throat, or from the skin.

But the most important of the alliances of erysipelas is with puerperal peritonitis. On this he insists with great earnestness.*

21. *Scarlatina.*—Mr. F. A. Bulley speaks confidently of the treatment of scarlatina by hot-water compresses to the epigastrium, and by enveloping the patient in blankets to induce copious perspiration.†

Dr. Patrick Newbigging affords evidence strongly corroborative of the prophylactic value of belladonna in $\frac{1}{6}$ gr. doses. In a large public institution he succeeded in checking the spread of the disease by this means, after seclusion had completely failed.‡

22. *Smallpox—Prevention of Pitting.*—Some experiments have been made by Dr. Sachern, U.S., on the power of the tincture of iodine applied locally, in aborting the variolous pustule, and thus preventing the consequent pitting. The tincture was used once or twice a day as soon as the papulæ appeared, and was continued until suppuration ensued. In order to test this plan in the most effective way, the author carefully noted thirty cases, in which the tincture was applied to one half of the face, the eruption being allowed to take its natural course on the other. The result was, that the portion of the face which was painted with iodine was comparatively little swollen, and the eruption was flattened, while on the other side there was the usual amount of heat and tumefaction. On cicatrization, it was not found that pitting was absolutely prevented, but the marks were much less evident than on the unprotected side. The effects of mercurial ointment were the same, or nearly so.§

* Medical Gazette, Oct. 1849.
† Med. Times, Aug. 35.
‡ Edin. Monthly Journal, Sept. 1849.
§ Amer. Journal of Med. Sciences, April 1849.

PART II.—SPECIAL PATHOLOGY.

§ II.—*Diseases of the Nervous System.*

23. *Delirium Tremens.*—Mr. Corfe mentions three cases of delirium tremens in confirmation of an opinion previously expressed by him, that sleep may frequently be obtained by freely unloading the liver with large doses of calomel, after opium has failed in accomplishing that object. The cases alluded to are well selected, and pointedly establish the truth of his assertions.*

24. *Sympathies of the Cerebral System with Disorder of the Stomach and Bowels.*—In a former number of this periodical we inserted a case from personal experience, illustrative of the fact, that symptoms resembling disease of the brain may arise in the adult as well as in the infant, from simply deranged gastro-hepatic functions. Cases of the same kind have subsequently been recorded by Mr. West and Mr. Hinton, which we shall briefly refer to.

—Mr. West's case is an instance of obstinate pervigilium, arising from retention of vitiated bile. This gentleman was sent for to see a farm labourer who was complaining of general uneasiness, with nausea and constipation, and headache. His most distressing symptom, however, was continual wakefulness, which was unaffected by sedatives, and yielded only to free purgatives, which brought away large quantities of pitchy biliary secretion.†

—Mr. Hinton's cases, four in number, exhibit the effect of the presence of indigestible food in the stomach in producing insensibility. The treatment of such is by the employment of an emetic, the operation of which is followed by prompt relief. ‡

25. *Epidemic Cerebro-spinal Meningitis.*—Dr. Ames has published an important memoir, containing an account of an epidemic of this disease, which recently showed itself in Montgomery, U. S. He divides the cases of the disease observed by him into two general classes, the congestive and the inflammatory.

Of the *congestive class* he makes two divisions—the malignant and the mild. The affinity of these to each other was manifested by such symptoms as distinguish this class from the inflammatory, viz. the constant presence of a cool skin, a small and feeble pulse, and a characteristic tongue—broad, flabby, and coated with a white, yellow, or pale ash-coloured deposit. The malignant form was distinguished by the frequent occurrence of chilliness in the forming stage: great prostration of strength; the invariable occurrence, for the most part on the first day, of coma, or a very marked degree of stupor, delirium, or stupor and delirium; considerable retraction of the head backwards; embarrassment in the movement of the muscles of other parts of the body; a wider range in the frequency of the pulse, and its more changeable character otherwise—the greater quantity and viscidity of the saliva, and the thicker coating of the tongue, and an occasional tendency to assume the symptoms of the inflammatory class.

Of the inflammatory class.—In this class Dr. Ames describes an intermediate group between the malignant and the mild, which he terms the *grave.* The affinity of these three forms was manifested by the symptoms which distinguish the inflammatory from the congestive class, viz. the uniform presence

* Medical Times, June, 16, 1849. † Prov. Med. and Surg. Journal, 1849.
‡ Medical Gazette, Oct. 26, 1849.

of a temperature of the skin above the healthy standard, a full and generally firm pulse, the tongue less swollen and flabby, and less coated. The *malignant* form was marked by the early occurrence of delirium or coma, most commonly the former; great irregularity of pulse, tonic or convulsive contractions of other muscles than those of the neck, strabismus, occasionally amaurosis, a tendency to nausea and vomiting, and to a speedy and fatal termination.

The *grave* form was distinguished by the regularity of the pulse, never below 100 in the minute, except during a remission, by the contraction of the muscles being confined to those of the neck, sometimes to the sterno-mastoid of one or both sides; by the occasional occurrence of painful sensibility of the skin to the touch, and of the retina to light; by the occurrence of regular remissions, and by the absence of coma and delirium.

The *mild inflammatory* form was marked by the lower grade of the febrile excitement; the continuance of a good degree of strength during the entire attack, however protracted; a tendency to turn into a chronic form; and by the absence of coma, drowsiness, delirium, and a cold stage. The disease was sometimes protracted to ten, fourteen, or even twenty-one days, the patients all the time being able to sit up, and to walk about a little. Even when apparent recovery took place within two or three days, there would still remain some confusion of mind; a sense of tightness across the forehead, or about the base of the brain, from one temple to the other; or pain in the occiput or neck, upon any unusual mental occupation.

Each of these classes, with its several forms, is illustrated by numerous cases given in detail.

There was observed in very many cases of the diseases of both classes a tendency to remission, at some period of the attack, varying from a few hours to several days from its onset; and frequently on the second and third days—days on which, also, the greater proportion of deaths occurred. They approached sometimes very nearly to intermissions; at others they were obscure. Sometimes they were quotidian or tertian, and accompanied by remissions of fever, as if the meningitis were ingrafted on an ordinary endemic fever. In other cases there occurred a remission in the cerebral symptoms, without any very obvious change in the febrile state; in others, again, the febrile symptoms remitted or intermitted without any abatement of those of the disease of the brain. There sometimes occurred, most frequently in the malignant forms of the disease, a decided amelioration of all the symptoms of the disease, which was occasionally the prelude of a rapid recovery. This was seldom the case, however, if the attack had lasted more than twenty-four hours; the remission being generally followed, after an uncertain interval of a few hours or days, by an exacerbation of all the symptoms, equal in intensity as before the remission. In a few cases a change of form occurred from the congestive to the inflammatory type, the stupor, coma, cool skin, and feeble pulse being exchanged for a state of reaction, a warm surface, and a full and strong pulse. The remissions were not regular in the inflammatory cases, particularly the grave variety.

Complications.—Inflammation of the fauces was observed in seven patients, five of whom had recently recovered from roseola, which was prevailing epidemically. Two had roseola with the meningitis, three bronchitis, and two pneumonia. Dr. Ames remarks that the affection of the mucous surface of the intestinal canal, and of the mesenteric glands, may be placed under this head, although the existence of the former in every case in which the parts were examined, and of the latter in four fifths, might justify the inference that a tendency to disease in these parts constituted an essential feature in

the epidemic. This point would have been more satisfactorily determined if the abdomen had been opened in all the post-mortem examinations. A typhoid state was assumed at a late period in three cases. The earliest period at which this was noticed was about the tenth day. Dr. Ames does not consider it as designating a form of the disease in any way connected with its essential pathology. As the three cases recovered, the nature of the intestinal alterations is not known.

Treatment.—Bloodletting was employed, with few exceptions, near the beginning of the attack, frequently and boldly, without regard to the state of the circulation, in the congestive as well as in the inflammatory forms. The quantity taken at one bleeding, or at several in quick succession, was sometimes very great: on one occasion the quantity taken at a single bleeding was forty-eight, and on another forty-four and a half ounces. In the greater number of cases the entire quantity taken from adults, in one day, varied from fourteen to forty ounces; in twenty-six cases the average was found to be thirty ounces. The effects of bloodletting were not so satisfactory as might have been expected. Within Dr. Ames's observation they were never promptly decisive for much good or evil; the pulse, in congestive cases, rarely filled up, or became regular; in some instances, it became quicker and more feeble, during or soon after rather a small bleeding on the first day of the attack. In the inflammatory form the same thing was occasionally observed, though in this form an improved state of the pulse was more frequently the immediate consequence of the loss of blood. The most common sensible effect, however, was relief of the cephalalgia; but this was not always observed. Still, prompt and free bleeding, in the very onset of the disease, in both the congestive and inflammatory forms, was, Dr. Ames believes, beneficial in consequence of the time gained by it, for other remedies more obviously beneficial. The impression of the physicians of Montgomery generally, in regard to bleeding, we are informed, was one of disappointment.

Mercury, employed to produce its constitutional effects, proved to be a more efficient remedy than bloodletting, as well in the promptness and permanence of its beneficial influence. If not always effectual, it was always safe, and the good obtained by it was more apparent, and quite as permanent, as that from all other remedies. In a few instances, however, salivation induced early in the attack, and kept up for several days, failed altogether in producing any perceptible influence; in some cases time was not afforded to effect salivation, and occasionally, though very rarely, the specific influence of the remedy could not be obtained.

Blisters to the upper portion of the spine, were found, in mild and grave cases, seldom to fail in removing or greatly relieving the cephalalgia, even when bleeding had failed to do so. In the malignant varieties, also, the relief afforded by them was very great. In the congestive forms, heat applied to the skin generally, mustard plasters, and frictions with oil of turpentine, were frequently beneficial.

Potassa.—Dr. Ames remarks, that his experience in the use of this remedy is yet too limited to determine positively its value, but he has seen enough to induce him to continue his observations, and to recommend it to the attention of the profession. It was given to children in doses of from three to five grains, and to adults in doses of from ten to fifteen grains, repeated every two hours. No case proved fatal in his practice, or, as far as he can learn, in that of either of his professional brethren, in which it was freely and continuously employed. But it is to be observed, that, under any treatment, the mortality was confined to the malignant forms of the disease; that the remedy was given in but few cases of this kind; and that other remedies of the most

energetic kind were also administered along with it. The powers of the remedy were exhibited in a much less equivocal manner in the grave and mild varieties. In many cases in which there were no febrile symptoms, properly so called, present, the cephalalgia was speedily and permanently relieved, and in others its administration was followed by a prompt reduction of arterial excitement, and the removal of intense cephalalgia and other symptoms of head disease. In one chronic case of the grave variety, in which the patient was fast sinking into a state of dementia, convalescence began on the day that the medicine was first administered. This man had been bled, salivated, and blistered without benefit.

Quinine, Dr. Ames employed frequently in the grave variety, to which it seemed most applicable, and sometimes with partial success. When the disease was attended with a fever which was regularly remittent, the meningitis appearing as if it were ingrafted on a remittent fever, quinine occasionally arrested the paroxysms, but more slowly and with greater difficulty than in other fevers. In other varieties, the remedy cannot be recommended; its use here, if not hazardous, never affording much encouragement.*

— Among other communications on the same subject, may be mentioned a paper by Dr. Packman,† and an essay of a comprehensive nature by M. Boudin, in which the author maintains the disease to be an essential fever allied to typhus,‡

26. *Hemicrania.*—M. Turenne has propounded a new theory of this disease. He defines it to be pain in the head, resulting from compression of the facial nerve, and more particularly of its ophthalmic branch, caused by accumulation of blood in the sinuses at the base of the cranium. This theory he supports by the enunciation of certain facts, of which we subjoin the most important:

1st. Of the three divisions of the trifacial nerve, its ophthalmic branch and its ramifications are the principal seat of hemicrania. Now this branch and its ramifications are situated in the external wall of the cavernous sinus, with which they have vascular connexion, being separated from the blood contained in the sinus by a very thin layer.

2d. Nausea and vomiting often accompany hemicrania; they are caused by the compression of the eighth pair at the foramen lacerum posterius, or along the neck; for in the latter region, the common carotid or the internal carotid artery, the pneumogastric nerve, and the internal jugular vein, are in the same aponeurotic sheath, and the vein is susceptible of considerable dilatation.

3d. During hemicrania the frontal vein is distended; the eyes, or that of the affected side only, are red, swelled, painful, and suffused with tears; vision is sometimes disordered. This results from the distension of the ophthalmic vein, which empties itself with difficulty into the anterior extremity of the cavernous sinus; and from the compression, at the trunk of the nerve, of those fibres of the ophthalmic which are destined to be distributed to the eye, the conjunctiva, the lachrymal gland, and the eyelids.

4th. In hemicrania, each pulsation of the internal carotid artery corresponds with a shooting pain. This results from the dilatation of the artery, which thus diminishes the cavity destined for the venous blood in the cavernous sinus.

5th. Epistaxis is often critical in hemicrania. Now the veins of the nasal fossæ, and more particularly the spheno-palatine veins, communicate freely with the cavernous sinuses.

6th. The acuteness of hemicrania diminishes during inspiration, and increases during expiration, or by holding the breath; in other words, it diminishes whilst

* American Journal of the Medical Sciences, April 1849. † Ibid., July 1849.

‡ Archives Générales, Sept. and Oct. 1849.

the venous blood tends towards the heart, and is increased under opposite circumstances.

7th. The positions of the head which relieve the pain are those which assist the emptying of the cavernous sinuses, and *vice versâ*. If the head be bent forward, the pain is acute; if backward, it is multiplied.

8th. Great mental exertion, deep emotion, respiration of carbonic acid, all cause headache, all being causes of accumulation of blood in the sinuses of the brain.

9th. Hemicrania is most frequent on the left side; this agrees with the anatomical distributions of the sinuses.

Having stated the above circumstances, which he considers corroborative of his views, the author in the next place replies to certain objections, and terminates by the following conclusions:

1st. Hemicrania implies moderate compression of a sensory nerve, and particularly of the trifacial.

2d. The causes of this compression are some venous reservoirs gorged with blood, and particularly the venous sinuses.

3d. The treatment ought to consist—1st. In preventing the compression, which constitutes the prophylaxis of headache; it borrows its means of action from hygiene. 2d. In palliating its effects by movements and positions of the head, &c.; this constitutes the palliative treatment, and its means of action are borrowed from gymnastics. 3d. In removing these effects; this is obtained by the co-operation of gymnastics and of stimulating, depleting, and other medicinal substances.

4th. The cause of the accumulation of blood in the venous reservoirs of the base of the cranium ought by no means to be neglected.*

§ III.—*Diseases of the Respiratory System.*

27. *Pertussis—Emphysema in.*—An instance of this complication is reported by Mr. Bird Herapath; the air having escaped from a ruptured air-cell at the root of the lung. The rarity of this accident may be learned from the fact, that Dr. Copland only mentions two cases in his 'Medical Dictionary.'

28. *Incipient Phthisis.*—In connexion with the excellent essay by Dr. Cotton on the 'Signs of Incipient Phthisis,' which appears in a former part of this Volume (art. 17) we have to mention an interesting communication by Dr. Theophilus Thompson, in which he investigates more particularly the diagnostic value of the "jerking" respiration. He states as the result of his inquiries that he has met with it in pleurisy unconnected with tubercles, thus substantiating the opinion of Barth and Roget, that the sign depends, in the latter case, on the presence of pleural adhesions, but he does not consider such to be the most common cause. He has also seen it as a concomitant of rheumatism in a few instances. In reference to its connexion with tubercle, he remarks as follows:

"I have sometimes observed it at one part of the chest, when pectoriloquy or cavernous respiration could be elsewhere detected, or when other indications of advanced consumption have been present. In a greater number of instances the wavy inspiration has ceased on the occurrence of bronchial respiration, dullness on percussion, dry crackling, or other more or less distinct evidences of the establishment of phthisis; but in a still greater proportion of

* Reported in the Lancet.

cases it has continued for a considerable period to be the only important deviation from the natural state. Often, indeed, I have watched it for years without detecting any evidence of transition to serious disease. Of 105 cases, when first observed, 32 afforded grounds for suspecting tubercular disease, such, for example, as dullness on percussion, or prolonged expiratory murmur. In 22, hæmoptysis had occurred. In 3, a murmur could be heard over the pulmonary artery. Of the remainder many were not affected even with cough, and complained chiefly of delicate health, easy fatigue, and sometimes of slight oppression of respiration, as if, to use the words of a patient, 'breathing through thin cambric.' It is therefore reasonable to conclude, that if the interrupted inspiration be an indication of tubercular disease, it is the earliest local sign with which we are acquainted. But the question naturally occurs, can this symptom depend on mere functional disturbance, and disappear, leaving the subject of it in apparent health? To this inquiry I have devoted some consideration, and must acknowledge, that although interrupted inspiration, when dependent on pleurisy, bronchial affection, or rheumatism, may disappear, I have not satisfied mysclf of its removal (unless when superseded by other signs) in any instance unconnected with any of these conditions. To what cause, then, can the production of so persistent a phenomenon be referred? Its persistency points to some organic change, whilst its frequently stationary character encourages the belief that the change is not necessarily tubercular. The sensation conveyed to the ear is that of bronchial obstruction, yielding in gradual intervals to the admission of air. Sufficient opportunities have not occurred for conclusively testing any hypothesis, but the explanation which seems to me best calculated to meet the conditions, would assume the existence of an exudation—less albuminous than tubercle, less fibrinous than the product of common inflammation—about the walls of the small bronchial tubes, and the interstices of the pulmonary substance, impairing the elasticity of the surrounding structure. Such morbid product of low inflammation may sometimes be sufficiently plastic to become organized, and to constitute hypertrophy of the cells and lobules, without involving any serious detriment to the general health; or it may become associated with the germs of tubercular deposit. When, indeed, distinct manifestations of phthisis once appear in such subjects, the disease advances with remarkable rapidity. I would remark, as tending indirectly to confirm the hypothesis just offered (although the numbers may be insufficient to authorize a positive conclusion), that, comparing the patients thus affected, with those suffering from undoubted phthisis, I am struck with the large proportion of those engaged in the open air, such as gardeners, policemen, coachmen, sailors, and toll-collectors. If, for example, persons engaged in the open air constituted a third only of my consumptive patients, they constitute one half of those presenting the 'inspiration saccadée.' I have not made spirometer observations to any great extent in this selection of cases, but as far as they were made, the vital capacity proved rather above the average which I have observed in the first stage of consumption. The more frequent occurrence of the sign on the left side is worthy of notice, and the cause not easy to assign. If a morbid deposit be engaged in its production, it would seem that such deposit must be most apt to occur on that side of the chest; but the more direct course of the right bronchial tube, and the excess of diameter of the three branches on the right side over that of the two branches on the left, by facilitating the ingress of air, may render a greater amount of obstruction necessary to establish an interrupted murmur on the right side.

"Amongst the conclusions apparently deducible from the above data, may be mentioned—1st, That interrupted inspiration may be observed in bronchitis,

pleuritis, and rheumatism, but that the most common variety is unconnected with those affections; 2d, That the variety most frequently observed (and which may be distinguished from the other varieties) may occur at various parts of the chest, but far most commonly at the upper part of the left lung; 3d, That this symptom rarely disappears, except when superseded by signs of phthisis, but that it often continues for many years without the supervention of that disease; 4th, That when phthisis does succeed, there is reason to apprehend great rapidity in its progress."*

[Dr. Thompson has here omitted to notice one cause of the "jerking" inspiration, which we have frequently observed, viz. imperfect inspiration from nervousness, or ignorance of what is required by the auscultator, when he requests the patient to inspire. In nervous and excitable patients, chiefly females, we have so often noticed the "inspiration saccadée," that we have been for some time past led to place no confidence in it as a sign of tubercle, until we have been carefully assured that it does not disappear when the patient's agitation has ceased. It can readily be understood that the hurried half-accomplished inspiration of a timid patient will fail to produce that equable expansion of the air-cells, which is the converse of the form of breathing in question.]

29. *Statistics of Phthisis.*—While on this subject, we have to notice the appearance of a most valuable document, in the shape of a Medical Report of the Hospital for Consumption at Brompton, the most interesting portions of which we propose to extract.

The total number of cases of phthisis treated in the establishment from its opening, in 1842, up to the present time, has been 888; as out-patients during the same period, there have been 3470, making a total of 4358.

The first point of interest established by this Report, is the fact that the male sex is considerably more liable to phthisis than the female, the contrary being generally held to be the fact. The age most susceptible in both sexes from 25 to 35. It is also established, in accordance with prior investigation, that in-door occupations predispose to the disease.

In reference to hereditary predisposition, the curious fact has been elicited, that females inherit the disease more frequently than males: of the latter, 18 per cent. referred their disease to consumptive parents, of the former 35 per cent. Again, it appears that the father transmits the disease to the sons in 59 per cent., to the daughters in 45 per cent.; while the mother transmits to the daughters in 56 per cent., to the sons in 40.

In their remarks on the symptomatology of phthisis, the authors allude in favorable terms to the spirometer, as affording valuable assistance in diagnosing the disease in its early stages.

Hæmoptysis occurred in 63 per cent., and in a nearly equal ratio for both sexes. In the female the per centage of hæmoptysis cases was higher before than after 25 years; in the male it was highest between the ages of 25 and 45. The stage of the disease in which hæmoptysis appeared was noticed in 696 cases, with the result that before softening it was 3 to 1 more frequent than after.

Some very gratifying observations have been made as regards treatment. For instance, it appears that nearly one half the patients who apply during the first stage receive relief to a certain extent. The disease has been *arrested* in 12 per cent. among males, in 7 per cent. in females *in this stage.*

In the second stage, we find 60 per cent. of males and 53 of females experienced relief, but there is no mention of the arrest of the disease. In the

* Edinburgh Monthly Journal, June 1849.

third stage, the progress of the disease was arrested in about 3 per cent. Taken collectively, without reference to stage or sex, the following are the results: relief 36 per cent.; arrest of disease, 6 per cent.

In their remarks on the therapeutics of consumption, the authors dwell chiefly on cod-liver oil, the beneficial effects of which are shown to be striking. Naphtha is treated with merited contempt. The effects of the oil are exhibited in a table of 542 cases, of which 293 were in the first stage, 249 in the second and third. Of the former, improvement took place in 201; the disease was arrested in 63; no benefit occurred in 29. Among the latter there were improved 131, arrest in 30, no improvement in 73.

Other animal oils have not appeared to possess the same powers.

30. *Pseudo-membranous Bronchitis.*—M. Thore has recorded two cases of this disease. The expectorated matter was viscous, partly floating and partly sinking in water; but its chief peculiarity consists in the presence of tubular prolongations, which accurately represent the divisions of the bronchi. This pseudo-membranous production is of a very white colour, and seems to consist of elongated fibres, possessing considerable powers of resistance. The author does not regard them as identical in nature with the false membranes of croup.

Among the predisposing causes of the affection, he names the lymphatic temperament as the most potent. One of his cases occurred in a youth who was decidedly rickety, and the other had evident symptoms of pulmonary tubercle.

The disease appears to be in many cases attendant upon some other affection. Thus, M. Nonat, in 1837, observed it in connexion with pneumonia. It has also been noticed as a complication of typhoid fever by M. Fauvel, and of capillary bronchitis by MM. Bonamy and Malherbe. It may be either acute or chronic; in the former case terminating in from ten to twelve days, in the latter lasting several months. The symptoms are in general sudden in their onset, the disease announcing itself by urgent dyspnœa, which cannot be accounted for by examination of the chest. Percussion gives negative results; auscultation makes known a variety of râles, mucous, sibilous of different intensities. The vesicular murmur is obliterated in the lung affected. A very characteristic sign is the suffocative dyspnœa, which precedes the expulsion of the false membranes, as contrasted with the immediate relief which follows. The intervals of the attacks of dyspnœa are lengthened in proportion as the condition of the patient ameliorates. The pulse is always quick.

The diagnosis is difficult in the first instance, but the nature of the case is soon developed by the appearance of the characteristic sputa. It is generally fatal when it supervenes upon prior disease, but its danger is not great in the uncomplicated form. The treatment is that of bronchitis.

[For the present state of knowledge respecting this remarkable variety of bronchitis, the reader is referred to a paper in the Prov. Medical and Surgical Journal, June 13, 1849.]

§ IV.—*Diseases of the Circulatory System.*

31. *Pericarditis.*—Dr. Sibson has contributed an instructive paper illustrating, with the aid of diagrams, the local displacement of surrounding parts effected by distension of the pericardial sac. His remarks on the auscultatory signs of the disease we transcribe briefly condensed:

"In the early stages of pericarditis, when the amount of fluid in the pericardium is not materially increased, the heart and lungs retain their normal position; the extent of cardiac dullness is scarcely altered, the to and fro friction-sounds caused by the right ventricle are heard over the lower half of the sternum and adjoining left costal cartilages, and the rubbing-sound of the left ventricle at the apex is heard only during systole, when the apex pushing aside the interposed portion of lung, rubs against the fifth intercostal space, the impulse of the heart is felt at the usual situation. As the effusion increases, it pushes aside the lungs further; the dullness is inereased, and the friction-sounds over the left ventricle are both diastolic and systolic; the impulse is a trifle higher.

"When the sac is so distended as to push the heart upwards, the extent of dullness is still greater. The friction-sounds are not heard so low as before, and the impulse of the apex is felt over the fifth, instead of the sixth costal cartilage. As the effusion still continues to increase, the friction-sound and the impulse are only heard between the first and third costal cartilages. When the sac is completely distended, and the surface of the heart is separated by the fluid, all sound and impulse vanish.

"As the fluid is absorbed, the phenomena reappear in a reverse succession."*

32. *Dissecting Aneurism.*—Dr. Peacock, whose communications on this subject have at various times been noticed in our former volumes, has recently published a more comprehensive essay on the mechanism and pathology of the lesion, of which it will be our endeavour to give an abstract.

He observes that the so-called "dissecting aneurism" is a form of premature false aneurism, originating in a laceration or erosion of the inner and middle coats of the aorta, or one of the larger arteries, thc external coat remaining entire; the blood, therefore, which escapes, forces its way between the layers of the middle coat, scparating them, and thus forming a sac. He divides the published cases of this lesion into three classes, according to the period which has elapsed between the occurrence of the rupture of the internal coats and the death of the patient.

1st. In the first class therc is found a more or less extensive laceration of the inner and middle coats, with slight effusion of blood between the laminæ of the latter. Cases observed at this early stage are rare.

2d. In the second stagc, the blood extravasated passes hetween the layers of the middle coat to a varied extent, and at its distal extremity not unfrcquently opens into the original vesscl.

3d. In the third or complete form, not only is there this separation of the laminæ of the middle coat, and its occasional reopening into the original vessel, but the new track is lined with a membrane bearing a close rescmblance to the ordinary internal coat of an artery. This is a rare condition.

After a statistical account of the localitics at which this rupture of the intcrnal coat occurs, the author states his belief that the sac is not, as has been supposed, formcd between the middle and outcr coats, but betwcen the laminæ of the former. The result of cases of dissecting aneurism he finds to be determincd by the seat of the original rupturc. When this is ncar the heart, death gencrally ensues from rupturc into the pericardium. In two such, howevcr, the aneurism burst into the right auricle. When the rupture of the internal tunics occurs at a greatcr distance from the origin of the aorta, thc rcsult is much the same.

In most cases the author finds that the artcrial lining has becn diseased; but in a few instances the rupture has seemcd to depcnd on excited action of the hcart, even when the aorta is sound.

* London Journal of Medicine, Oct. 1849.

The occurrence of laceration is signalised by pain in the region of the heart, extending to the shoulder, dyspnœa, feeble faltering pulse, faintness, and a feeling of impending dissolution. This is, in the majority of cases, soon followed by death; but in others the patient rallies, and the rupture into the pericardium is delayed, but generally happens at no distant period.*

— An additional case of dissecting aneurism, with its usual termination of rupture into the pericardium, is reported by Dr. J. W. Gairdner.†

33. *Cyanosis.*—Dr. Stillè has translated Rokitansky's Views on the Pathology of this Disorder of the Circulation,‡ which, as many of our readers may not have the power of seeing the original, we give with but slight condensation. Rokitansky gives it as his opinion, that cyanosis always depends not upon mixture of the two kinds of blood, but upon impeded reflux of the venous blood into the heart, and a consequent habitual or occasional engorgement of the venous capillary system; so that in this respect all the varieties of cyanosis may be classed together.

The various malformations of the heart, which involve a deficiency in the integrity of its septa, do *not*, according to his experience, and to many observations analysed for the purpose, produce cyanosis, unless there exist at the same time a narrowing or insufficiency in the calibre of the arterial trunks, or a contraction of the orifices of the heart. The patency of the foramen ovale is a very common occurrence, which, during life, gives no sign of its existence, provided there coexist no anomaly in the arterial trunks. This fact is the less surprising, when we know that under the same conditions, even in the total absence of the septum of the auricles, no cyanosis is manifested. The patency in such instances is without any known cause, and must so far be considered as purely accidental; in the other cases, which are comparatively rare, it is brought about by abnormal conditions of the great vessels, patency of the ductus arteriosus, deficiencies in the ventricular septum, endocardial valvular changes in the fœtus, causing contraction of the *ostia*, by diseases of the lung, by catarrh, atelectasis, &c.

With regard to the supposed mingling of the two kinds of blood in patency of the foramen ovale, Rokitansky observes, that most probably no such mixture takes place, so long as the equilibrium between the contents of the two auricles is maintained, and the valve is pressed against the septum by the blood in the left auricle. Even in the cases of considerable deficiency of the valve of the foramen ovale, without, or even *with*, persistence of the eustachian valve, which guides the blood from the vena cava towards the foramen, no cyanotic phenomena are produced, notwithstanding that in both these cases there must necessarily be a passage of the venous over to the arterial blood. In those cases, on the contrary, in which the patency of the foramen ovale is coexistent with or depends upon the abnormal conditions before mentioned, cyanosis results, although the mixture of the two kinds of blood does not, by any means, always take place in the manner usually assumed. This is regulated by the nature of the coexisting malformation of the heart or great vessels. Where the channel of the pulmonary artery has been narrowed, or obliterated, the blood of the right auricle will, in consequence of the difficulty experienced by the right ventricle in emptying itself, be forced into the left ventricle; when, on the contrary, the aorta is similarly affected, the arterial blood will mingle itself with the venous. The same results will ensue in those cases of changes in the *ostia*, caused by endocarditis in the fœtal state, according as these processes have had their seat in the right or in the left side of the heart.

The patency of the ductus arteriosus involves that of the foramen ovale, but

* Edin. Monthly Journal, Sept. † Ibid. ‡ Handbuch der Path. Anat., ii Bd. p. 510.

not in the manner usually assumed. It is supposed that the amount of blood in the left auricle is diminished in proportion to the quantity which the size of the duct may allow to be carried off to the aorta, and that by the consequent passage of the blood from the right auricle into the left, the closure of the foramen ovale is prevented. Instances are, however, met with, in which the form of the ductus arteriosus and its two extremities, and particularly the expansion of the one terminating in the aorta, render it highly probable that the blood goes from the aorta into the pulmonary artery. In these cases, the passage of the blood from the right into the left auricle, and the patency of the foramen ovale, result from the engorgement of the right auricle and ventricle, since the free escape of the contents of the latter is hindered by the current of arterial blood entering the pulmonary artery from the aorta. In either case, whether venous blood mingles with arterial in excess or the reverse, cyanosis will be produced in consequence of the difficulty experienced by the venæ cavæ in emptying their contents into a heart affected with dilatation.

A defective state, or complete absence of the septum of the auricles, although necessarily involving a mixture of the two kinds of blood, does not give rise to cyanosis while the condition of the arterial trunk remains normal. A considerable number of observations has taught us that these imperfections of the auricular septum seldom exist without an anomaly in the arterial trunks, which, beyond all doubt, is often overlooked. This anomaly consists in an evident narrowing of the aorta, which although manifestly occasioning a mixture of the *arterial* with the venous blood, still gives rise to a well-marked cyanosis. The narrowing of the trunk of the aorta causes, equally with the same condition of its orifice in the left ventricle, an active dilatation of this cavity and of the left auricle, and as a further consequence, of the right side of the heart also, through the medium of the capillary system of the lungs. The escape of arterial blood through the aorta being thus hindered, the first effect produced, is that a part of it is forced into the right auricle, and mingles with the venous blood; the second, that the venous blood from the general circulation cannot freely enter into the engorged cavities of the right side of the heart, and cyanosis finally results. It is obvious, that in these cases an active dilatation of the right ventricle, and especially of the conus arteriosus and pulmonary artery, is generally produced. Bouillaud cannot suggest for this fact any better explanation than that the right ventricle is stimulated by the contact of the arterial blood introduced into it from the left auricle. Even *a deficiency in the ventricular septum*, and the consequent establishment of a communication between the two ventricles, does not, as many observations have proved, produce cyanosis, without some coexisting anomaly of the arterial trunks. The less the deviation of these from their normal condition, the more trifling and transient will the cyanotic phenomena be, and will only occur under certain circumstances, such as mental emotions, bodily exertion, and diseases of the lung. But, with this deficiency in the ventricular septum, there are commonly associated such important anomalies in the great vessels, that a well-marked cyanosis almost always accompanies it. The most common of these are the narrowing, or total occlusion of the aorta, or the pulmonary artery—most frequently the latter—so that the aorta taking its rise from both ventricles, supplies blood to the system at large, and to the lungs also by means of abnormal branches. Now, this vessel being insufficient to carry off the blood of both ventricles, cyanosis must result from the impeded entrance of the venous blood into them, and the more certainly, as in cases of deficiency of the ventricular septum, when the great vessels are in a normal condition, or even when they are transposed, it does not occur at all, or only at particular times, as e. g. from diseases of the lungs; yet here the complete and constant

admixture of the two kinds of blood is not open to any doubt. The same effects are produced in cases of contraction of the cavity of a ventricle; it becomes—together with the arterial trunk arising from it—insufficient for the whole mass of the blood; in other words, it is ultimately brought about by an accumulation of blood in the venous system, owing to the obstacle which the right ventricle suffers in the discharge of its blood into the lungs.

The heart is in all these cases dilated and hypertrophied, sometimes in both ventricles; sometimes one is more affected than the other, and this is commonly the right ventricle, so that the heart retains the same proportions between its cavities as in fœtal life. Cyanosis, though constant in some cases, is generally remittent in its character, or is only manifested after certain exciting causes, among which may be classed all those which obstruct the free circulation of the blood through the lungs and the heart, as mental emotions, violent exertions, &c., but above all, diseases of the lungs. Of these latter, pulmonary catarrh occasions most frequently the outbreak of cyanotic phenomena in children or in adults; this the more readily occurs, as in the above-mentioned malformations an habitual bronchial catarrh generally exists, in consequence of the continued engorgement of the pulmonary vessels. Cyanosis sometimes does not make its appearance until some time after birth, sometimes not until the age of puberty, and then results doubtless from the fact of the disproportion in the size of the arterial trunks to the heart, and the general mass of the blood becoming at this period of life more important. But, according as cyanosis is permanent or interrupted, the result of known or of unknown causes, we may observe in the individuals affected with it an arrest of development, deficient nutrition and calorification, general weakness, and premature death; and in others again, a very slight impairment of the vital functions. In a few cases in which the heart offered all the conditions favoring a complete mixture of the blood, a most satisfactory state of all the functions has been found, a fact which some persons have endeavoured to explain by supposing that an equal development of both sides of the heart may have prevented the mixture of the two kinds of blood. A morbid condition frequently found with cyanosis, is the fusiform enlargement of the ends of the fingers, with a corresponding convexity of the nails. This is entirely unexplained; and if a similar condition, as is maintained by many observers, is to be found in pulmonary phthisis, it may, as a phenomenon existing in connexion with cyanosis of the lungs, be adduced as additional proof of the correctness of our views of the origin of cardiac cyanosis. An observation of importance which militates against the general doctrine of the pathogeny of cyanosis, was made by Breschet, who saw a case in which the subclavian artery of the left side arose from the pulmonary artery, without any discoloration ensuing in the corresponding extremity. But still local cyanosis may be witnessed in those cases in which the return of the venous blood is obstructed, as e. g. by the passage of arterial blood into a vein in varicose aneurism. Finally (as observed by Fouquier), the fœtus is not cyanosed, notwithstanding a constant mingling of the arterial and venous blood takes place in it.

A phenomenon in every respect, of great importance in cardiac cyanosis, may be found in the hemorrhages from the capillary system of various organs, particularly from the lungs. They are without doubt produced by a rupture of the engorged capillary vessels, and fully corroborate our views of the cause of the disease. Cyanosis dependent upon malformation of the heart comes to a fatal termination, either suddenly or slowly, just as in acquired diseases of the heart. Finally, cyanosis is an ordinary symptom of many diseases of the heart. Among these may be reckoned dilatation and hyper-

trophy, when excessive, together with those diseases of the valves which give rise to them. Certain morbid non-congenital conditions of the arterial trunks, as narrowing, obliteration, communication of the aorta with the pulmonary artery, or with the venæ cavæ, and the consequent passage of the aortic blood into these vessels, will all produce cyanosis. Although these diseases may have been acquired at a very early age, or been congenital, yet frequently the cyanosis does not make its appearance until a later period. The question whether cardiac cyanosis can be acquired by a reopening of the foramen ovale, and a perforation of the septum by an inflammatory and suppurative process, or by a rupture, is still problematical. The assumption of the possibility of the reopening of the foramen ovale comes to us from a time when too much stress was laid upon the importance of its patency, and has hence been employed to give a finish to a favorite theory. The instances which are related of the perforation of the septa by disease are partly, of course, not improbable, but they all lack a sufficiency of detail, and are incomplete in their proofs of a pre-existing inflammatory or suppurative process. This is particularly the case with those which might throw some light upon the question, whether these processes had not already commenced in the fœtus, and hence the perforation be considered as congenital; or whether, indeed, the evidences discovered of a pre-existing inflammation might not rather have been subsequent to the perforation instead of associated with it. This suggestion is deserving of attention, inasmuch as in cases where these malformations are found, there may be discovered not unfrequently traces of old or recent endocarditis.

While the cause of cyanosis may be generally referred to the heart, and especially to its right side, it may also be derived from the most various congenital or acquired diseases of the lungs, which involve an impeded circulation through the pulmonary capillary system. When this is the case, and the blood cannot penetrate fully into the lungs, it is thrown back upon the right side of the heart, and thus causes cyanosis; moreover, as has been already observed, the right side of the heart becomes in consequence of this continued engorgement actively dilated, in a degree corresponding to the amount of resistance offered by the lungs. It is chiefly, however, diseases of the left side of the heart, such as dilatation and hypertrophy of the ventricles, and, particularly, contraction of the left *ostium venosum*, which, in consequence of the impediment to the return of the blood from the lungs, occasion an engorgement of the right side of the heart and of the venous system, and in the end cyanotic phenomena, with an extension of the hypertrophy and dilatation to the right side of the heart. Further, those conditions of extreme thickness of the lung, continued compression of it (by exudations), atelectasis, catarrh and bronchial dilatation, emphysema, pneumonia and extensive pneumonic induration, pulmonary tubercles, &c., produce cyanosis on the same principle as the narrowing or occlusion of the pulmonary artery. They may, moreover, if congenital or acquired soon after birth, prevent the closure of the passages peculiar to the fœtal circulation. All forms of cyanosis, or rather all the diseases of the heart, great vessels, and lungs, adapted to produce cyanosis in a greater or less degree, cannot coexist with *tuberculosis*. Cyanosis affords a complete protection against it; and in this circumstance may be found an explanation of the immunity from *tuberculosis*, which many conditions of the system, apparently very different in their character, afford.*

34. *Polypiform Concretions.*—In a paper recently published, Dr. Meigs, of Philadelphia, states his belief that the white concretions formed in the

* Philadelphia Medical Examiner, April 1849.

heart before death are in all cases the result of an anæmic state of the system, as a consequence of which, the blood has a greater tendency to coagulate. He is led to this opinion from the fact that in animals bled to death, the last portions of the blood drawn coagulate more readily than the first. The practical application of these views is shown by a reference to cases of hemorrhage after labour, in which the danger of the formation of the cardiac concretion, on suddenly rising in the bed, is forcibly pointed out. The time required for the extinction of life on the occurrence of this accident is various. Death may be instantaneous, as in the case of the Princess Charlotte; or it may not occur until the formation of the concretion has given rise to the consecutive phenomena of effusion into the cavities of the pericardium, pleura, &c. The symptoms are sudden failure of the pulse, with deadly pallor, and gasping respiration. Dr. Meigs discusses the possibility of recovery after the occurrence of the coagulum, and decides that the probabilities are in all cases greatly against the patient.*

§ V.—*Diseases of Uncertain or Variable Seat.*

35. *Gout.*—An excellent treatise on Gout has appeared, since the date of our last Report, from the pen of Dr. Gairdner.† This treatise comprehends the pure type of the disease only, its complication with rheumatism being unmentioned. It consists of eleven chapters, the contents of which we proceed to analyse as curtly as the subject will allow.

In chapter i the author commences his subject by commenting on the great frequency of gout, its premonitory signs, and on certain anomalous symptoms. We are too apt, he observes, to consider those only as gouty who exhibit the perfectly-developed disease; but this is taking much too narrow a view; he believes, on the contrary, that the gouty diathesis is present in many persons who never see its local manifestations, and that it is nearly as common as the strumous taint. Such is likewise the opinion of Prout.

The earliest signs of an approaching fit of gout, in the author's experience, has been a dull pain on the left side, with irregular action of the heart; next come symptoms of impeded capillary circulation, manifested by want of natural cutaneous secretions and the appearance of one or other form of cutaneous eruption, generally of the scaly kind. Certain anomalous symptoms also arise, as hemicrania, neuralgia affecting different parts, the bowels are usually torpid, and the urine strongly acid.

The different varieties of gout, its stages and terminations, form the subject of the second chapter. The older authors acknowledged a great number of species of gout, which were by Cullen reduced to four. Dr. Gairdner still further diminishes the category, admitting only two varieties, the regular and the atonic.

In the consideration of regular gout, he regards it as of great importance to appreciate their separate stages, each of which is characterised by its effect on the constitution. Each of these he minutely describes. In the first the attacks are irregular in their appearance, and the patient is as yet unbroken in health, so that they have but a transient effect on the constitution. In the second stage the attacks are more frequent, though less painful, but the impaired strength of the patient tells that the disease has taken strong hold. The last stage exhibits the health completely broken up by the repeated

* Philadelphia Medical Examiner, March 1849.

† Gout; its History, Causes, and Cure. By William Gairdner, M.D. London, 8vo, p. 232.

assaults of the enemy. The condition of the patient at this time is most graphically and faithfully portrayed.

The terminations of gout are various. Apoplexy is one of the most common. In women the author has noticed menorrhagia to be frequent at the critical period. Hemorrhoids are also seen, and the exhaustion produced by repeated losses of blood in some cases induces hydrothorax or ascites.

But besides these manifest sequelæ of gout, Dr. Gairdner expresses his belief that this disease is sometimes the cause of sudden death without any organic lesion. Such are the so-called cases of gout in the brain, &c.

We pass over the description of the atonic form of gout, to chapters iv, v, and vi, in which the author states his views of the pathology of the disease at considerable length. He denies the existence of the *materies morbi* so implicitly believed in by many, as also the theory which connects it with depraved action of the stomach as cause and effect. All, he observes, that can be alleged regarding dyspepsia is, that it is one of the most constant attending symptoms.

The uric-acid theory of gout meets with little favour at the author's hands, —as on the one hand the presence of lithates in the urine is one of the most common phenomena of disordered functions quite irrespective of gout, and on the other, uric acid, so far from being confined to the blood of the gouty, has been determined by the researches of Dr. Garrod to exist in pure and healthy blood. The disappearance of the uric-acid salts from the urine, and their accumulation in the blood, is, according to him, the consequence of gout, and not its proximate cause. Inflammation and gout are next shown to have no necessary connexion, and the author, having thus concluded his objections to prevailing doctrines, presents us with his own theory, which we shall give in the words of the original.

"The real pathology of gout appears to be comprised under these heads,—an increased pressure of the blood from its accumulation in the large veins, and an altered state of that fluid leading to the formation of uric acid instead of urea; these results being dependent upon too copious an assimilation of nutriment, or defective respiration, and more or less suppression of healthy evacuations from the liver, kidneys, and skin." Beyond this the author does not venture to proceed. Why the plethora of repletion should produce gout in one individual and not in another, he considers in the present state of knowledge can be solved.

The remaining chapters are occupied with the treatment of gout. The author entertains more sanguine opinions as to the curability of the disease than are held by most; though not by physic, as he observes, but by the physician. Dietetic and hygienic means are those by which the event is to be accomplished, as well as the disease itself prevented. The author's remarks on these points are strikingly judicious.

Under the treatment of the regular and atonic forms of gout Dr. Gairdner discusses the various therapeutic processes usually employed. Denying that the disease is inflammatory, he of course deprecates the practice of bloodletting to such an extent as is calculated to subdue inflammatory action, but he does not on this account object to the general abstraction of blood in small quantities and with other objects.

The use of purgatives is a disputed point among writers on gout. Mead and Sydenham forbid their use altogether. Hoffman, on the contrary, urges their employment, and of late years they have formed a staple ingredient in the treatment of gout. Dr. Gairdner steers a middle course; while he unhesitatingly condemns violent purgation, he approves of moderate alvine evacuation.

Alkalies are not considered by Dr. Gairdner to merit the praise which has been bestowed upon them.

Tonics he highly approves of, especially in the atonic form of the disease, and in the later periods of the regular attack. In the broken-up constitution alluded to in the description of the third stage of gout, iron is advised. This medicine is mentioned as the only remedy in a form of gout seen in old people, which is manifested by swollen joints of the hands, with slight derangement of the stomach, and a faltering action of the heart. The preparations he prefers are the salts of the vegetable acids. Colchicum is spoken of by Dr. Gairdner as chiefly applicable to the regular disease in unimpaired constitutions. In some cases of the atonic form, the depressing effects of the medicine more than counterbalance its beneficial action. Much discredit has, he appears to think, been brought upon this medicine by its being given in too large doses, and too soon. While the disease is in full activity its benefit is problematical; if it be allowed to spend some of its first violence, then colchicum comes in advantageously. The dose he advises does not exceed from ten to fifteen minims.

The last chapter, on the treatment of misplaced gout, is a very important one, and is calculated to do away with many commonly diffused errors. Dr. Gairdner expresses his belief that the stimulating and sedative plan so commonly adopted is in many cases quite unnecessary if not positively injurious, and he instances several cases in which all that was necessary was accomplished by the aid of counter-irritation alone.

Remarks on the management of the supposed cases of metastasis of gout to the heart and brain terminate this volume, which we believe to be as sound and practical an exposition of the subject treated of as has ever been produced.

Our readers will not fail to perceive that we have omitted all mention of some sections usually admitted into this Report, such as Diseases of the Chylopoietic, the Urinary, and the Integumentary System. This arises from the fact that under these divisions we have met with little that is important, with the exception of the communications noticed among our Abstracts. We trust, however, that the extended space we have allotted to the subject of Cholera will compensate for the deficiency.

APPENDIX.

[We had marked the following important communication for notice, but by some unaccountable accident it was omitted in its proper place. We now give it, and beg our readers to peruse it in connexion with § 29 of the foregoing Report.]

Statistics of Pulmonary Consumption.—The following summary of important results are found appended to an elaborate Report, derived from the records of the Hospital for Consumption, London, and contained in the 'Medico-Chirurgical Review' for January last.

1st. There apparently exists a greater proneness to early marriage among phthisical, than non-phthisical persons; this greater proneness exists in both

sexes, and, in the cases analysed, prevailed to the same amount in males and females.

2d. Of a given mass of patients entering the hospital in all stages of the disease, and in every variety of general condition—between the actually moribund state and that of but slight constitutional suffering—the number leaving it, on the one hand, *improved* or *unadvanced* was more than double that, on the other hand, leaving in *a worse state* or *dying within its walls* (the exact ratio is 67·84 : 32·16). If the cases, in which death was actually imminent at the period of admission, were excluded, the result would be very materially more favorable than this.

3d. In 4·26 per cent. of the cases, complete restoration to health, not only as regards apparent disturbance of the functions generally, but as regards local evidence of active pulmonary disease, was effected.

4th. Complete removal of symptoms was more frequently effected in the male than in the female: but, on the other hand, the results were, on the whole, slightly more favorable in the latter than in the former sex.

5th. All patients whose condition grew worse, while they were in the hospital, had reached the stage of excavation before their admission; and all patients, whose tubercles were yet unsoftened on admission, left the hospital either improved, or having had a *statu quo* condition kept up.

Improvement is more probable than the reverse, even where excavation exists on admission.

6th. In a given mass of cases, the chances of favorable influence from sojourn in the hospital, will be greater, in a certain (undetermined) ratio, as the duration of the disease previous to the admission has been greater; in other terms, natural tendency to a slow course is a more important element of success in the treatment of the disease, than the fact of that treatment having been undertaken at an early period.

7th. The mean length of stay in the hospital in the most favorable class of cases, nearly doubled that in the least favorable.

8th. The chances of benefit are more in favour of those whose trades are pursued out of doors (wholly or partially), than of those who work altogether within doors.

9th. The results did not appear to be influenced by the laborious or non-laborious character of the trade individuals might have pursued.

10th. The age of the sufferers did not exercise any very material influence on the character of the results.

11th. Patients coming from the country have, on an average, a slightly stronger chance of improvement, than the residents of London and the suburbs.

12th. Patients admitted during the warmer half of the year, benefit by a sojourn at Brompton, to a slight extent, more than those received during the six colder months.

13th. From a comparative analysis of the family histories of 446 persons, 162 of them phthisical, 284 non-phthisical, the final conclusion flows:—*that phthisis in the adult hospital-population of this country is, to a slight amount only, a disease demonstrably derived from parents.* It is possible (nay, indeed, *probable*), for, in adults having a parental taint, the outbreak of the disease occurred a mean period of two years and nine months earlier, than in those free from such taint, and that, were investigation extended to infancy, childhood, and youth, the ratio, of cases of parental taint among the phthisical, would be proportionally greater than it proves where inquiry is limited to adults. But, on the other hand, there is no single valid reason for *supposing* (prior to actual experience) that the increase in that ratio would be of more than trifling amount. Again, whether the law differs in the adult portion of

the middle and upper classes of society, from that holding in the humbler classes (those supplying hospitals), can only be positively determined by an analysis of family histories collected among the former classes; meanwhile, it appears justifiable to doubt the reality of any such difference.

14th. If no distinction of sex be made, it appears that the softening point is attained with no very unequal rapidity in the right and the left lung; but such difference as exists signifies that softening is, on an average, more quickly accomplished on the left side than on the right.

15th. But the law seems very clearly to differ in the two sexes in regard to this point: the disease is more rapidly evolved in the right lung of males, and in the left of females.

16th. Age exercises some influence over the course of the disease in the two sexes; the excess of frequency with which the right lung had reached the second and third stages was within 2 per 100, the same before and after the age of 30; whereas in females the excess of frequency with which the left lung was found in those stages was about 45 per 100 greater, after than before that age.

17th. Hæmoptysis is a symptom of extreme frequency, occurring in about 81 per 100 of the cases.

18th. It was of very slightly (2 per 100) more frequent occurrence in males than females.

19th. Hæmoptysis to a medium amount is about four times less common than to very slight or to profuse amounts (both taken together). Very profuse hemorrhage from the lungs is more common in males than females.

20th. Medium frequency of recurrence of hæmoptysis is materially less common (and this in both sexes) than a single, or than repeated attacks. Further, repetition of hæmoptysis is more common in males than in females.

21st. It is materially more common for a first hemorrhage to be more profuse than subsequent ones, than for subsequent ones to be more profuse than the first.

22d. Hæmoptysis is more frequently met with (and this is independently of any influence of duration of the disease) in persons who have reached the second and third stages, than in those whose lungs have not yet softened. This proposition is more markedly true of males than of females.

23d. There does not appear to be any notably greater tendency to hæmoptysis where the right lung has reached a more advanced stage than the left, nor *vice versa*, where the left has taken the lead. It seems improbable that either lung is more effective in causing hæmoptysis than its fellow.

24th. The frequency of hæmoptysis increases with advancing years in both sexes. The increase is more abrupt in females than in males, and in the former appears connected with the catamenial function.

25th. This greater frequency of hæmoptysis in persons of more advanced years does not depend altogether on greater duration of the disease; for those who had hæmoptysis had been phthisical for only a mean period of eight months longer than those who had not spit blood.

26th. The most common periods for the occurrence of hæmoptysis were at the very outset, or after the expiration of the first month, unless it has actually appeared as the first, or among the first symptoms. The phrase "first symptom" here is to be understood with the qualification already explained.

27th. In upwards of half the cases of notable hemorrhage (beyond 4 oz.) this occurs, or has occurred, as the "first symptom," corroborating the inference as to the excess of amount of first over subsequent hemorrhages.

28th. Hemorrhage of this amount is rare as a coexistence with other first symptoms (in 1·13 of these cases) appreciable by the patient.

29th. Streaked or tinged sputa are, on the contrary, of very common appearance amongst the earliest symptoms.

30th. But streaked or tinged sputa are rarely (or never) *the* "first symptom" singly and alone.

31st. Season does not appear to exercise any marked influence on the occurrence of a first hemorrhagic attack.

32d. Hæmoptysis never appeared as the *bonâ fide* first symptom in these cases, the phrase being understood in its absolute sense without qualification.

33d. Pulmonary apoplexy is not the cause of phthisical hæmoptysis; the coexistence of pulmonary apoplexy and tubercles in a person who has had hæmoptysis, more or less recently before death, is at the least very rare. The common cause of hæmoptysis in tuberculous persons is intense congestion, ending in molecular ruptures.

34th. Expectoration of blood in persons labouring under chronic bronchitis, with or without emphysema, but without notable disease of the heart, justifies in itself a suspicion of the existence of latent tubercles.

35th. A given mass of cases of cancer of the lung will be attended nearly as often with hæmoptysis of all amounts, and greatly more often with hæmoptysis above an ounce at a time, than an equal mass of cases of phthisis. But cancerous disease of the lung is, comparatively speaking, so rare, that this proposition does not materially affect the diagnostic value of hæmoptysis in phthisis. Besides, the distinction of the disease is, clinically, easy.

36th. Not only does chronic empyema not give rise in itself to hæmoptysis, but empyema, established in a phthisical person, appears to a certain extent prophylactic against the hæmoptysis which is almost an appanage of the latter disease.

37th. I have never once seen cardiac disease, of such kind as to cause hæmoptysis, coexistent with *phthisis*, using the term in its practical sense; but in a fair number of instances I have seen advanced cardiac disease in persons whose lungs contained *crude tubercles and gray granulations*, which had been completely, or almost completely *latent*.

38th. Contrary to common belief, it may be affirmed, that when the *nisus hæmorrhagicus* in women menstruating imperfectly, directs itself to the lung, and leads to the evacuation by that organ of a quantity of blood, amounting to or exceeding an ounce, there is motive for suspecting the existence of tubercles.

39th. All these propositions tend to exhibit in strong light the diagnostic signification of hæmoptysis *quoad tubercle;* but it is to be remembered that they will only hold completely true if applied to *latent* as well as *obvious* tuberculization.

40th. The diagnostic importance of hæmoptysis as a symptom of tuberculization of the lungs is, indeed, extreme,—even sputa, simply streaked or tinged with blood, are not without significance under certain circumstances.

41st. Hæmoptysis is rarely "directly" fatal; more frequently so in males than in females.

42d. Frequently-recurring hæmoptysis does not reduce the mean duration of life in any given mass of tuberculous cases.

43d. A first hæmoptysis having been severe, it is unlikely that a subsequent one will kill "directly;" and a first hemorrhage being moderate, subsequent ones are not likely to be severe.

44th. The prognosis of hæmoptysis is materially more unfavorable in males than in females.

II.

REPORT ON THE PROGRESS OF SURGERY.

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THE only two works which during the past half-year have been issued in this department of medical science, and reached us for notice, are:—

I. *A Practical Treatise on Morbus Coxarius.* By WILLIAM C. HUGMAN, M.R.C.S.

II. *A Dissertation upon Dislocations and Fractures of the Clavicle and Shoulder-Joint.* By THOMAS CALLAWAY, F.R.C.S. (The Jacksonian Prize Essay for 1846.)

The contents of these works are analysed in Section II of this Report. — We have also to mention the appearance of another number of Mr. Dalrymple's Plates on the Diseases of the Eye, and of Mr. Maclise's 'Surgical Anatomy.' For beauty and faithfulness of execution they are fully equal to preceding numbers.

The general current of surgical investigation during the past half-year appears to have been directed towards diseases of the blood-vessels (aneurism by compression), diseases of the urino-genital system, and hernia. Attention in all probability has been prominently directed to this latter disease by the appearance of Mr. Gay's able Treatise on Femoral Rupture, which we fully analysed in our last Report. It is, therefore, principally to these three divisions, *Diseases of the Arteries and Veins; Diseases of the Genito-Urinary System*, and *Diseases of the Abdomen*, to which in the following Report we have drawn the attention of our readers, while in last Half-Year's Report (Vol. IX) it was the *Use of Chloroform in Practical Surgery; Military Surgery* (the gunshot wounds of the French Revolution), and *Injuries and Diseases of the Head and Neck*, which occupied the largest space.

§ I.—*Injuries and Diseases of Arteries and Veins.*

1. *A New Operation for securing the Common Carotid Artery.*—In the 'Dublin Quarterly Journal' for August 1849, Dr. Hargrave details a case in which he adopted a new method for securing the common carotid artery.* The following is the history of the case:—

"Patrick Beahan, æt. 61, master of a ballast lighter, was admitted into the City of Dublin Hospital, on the 15th of January 1849, under the care of Dr. Hargrave.

"He had been attending as an out-patient for some weeks, for a tumour occupying the space between the symphysis and the angle of the jaw on the left side. The tumour was rather firm on pressure, and, on careful examination, fluctuation was very evident. It was punctured by Dr. Hargrave, and a quantity of straw-coloured serum, mixed with scrofulous-looking matter, discharged. Next day, shortly after twelve o'clock, he experienced a very severe

* In the Report on Surgery in the last volume of the 'Half-Yearly Abstract' (§ III, No. 13) will be found an account of a new operation for tying the *subclavian*, based on the same principle, and also suggested by Dr. Hargrave.

rigor, with intense headache, sickness of stomach, and pain in the tumour, and on Monday he came to the hospital in the following condition—the left side of the face swollen, with an erysipelatous blush spread over it, and extending to near the left eye; pain in the tumour; some headache; thirst; pulse 92, full and strong; tongue coated; bowels constipated.

"From the 16th of January the erysipelas, which had extended upwards over the face to the scalp and eyelids, and was attended with nocturnal raving, was treated by leeches in small numbers, applied at two different periods, by mercurial inunction, and the internal use of camphor, bark, and aromatic confection; poultices were applied to the abscess, the discharge from which was daily improving in character up to January 20th, when something *like grumous blood appeared on the poultice;* this appearance continued the following day, but was less the one after.

"23d January.—About half-past seven o'clock last night a gush of blood came from the cavity of the abscess, through the lancet wound which was made on the 13th inst.; it flowed *per saltum*, was of a florid red colour, and was arrested by placing the finger on the wound. When the finger was removed from the wound, the blood came out in a jet the thickness of the little finger, and was thrown fully a yard distant. A consultation was held, and it was decided that the common carotid artery should be tied. The operation was performed by Dr. Hargrave.

"Immediately after the vessel was tied, the patient had two severe rigors, quickly succeeding each other, but of short duration; they were followed by vomiting of some fluid; there was no alteration of vision. No blood was lost during the operation. The pulse was slow and weak; while on the table, he got a glass of wine, and at ten o'clock p.m., eight grains of compound chalk powder, and Dover's powder, were administered to him, his bowels being rather free during the day. He passed a quiet night, with some wandering, but not so much as previously.

"From the morning of the 23d of January, the day after the operation, absolute repose was enjoined, warm-water dressing was applied to the abscess, which ulcerated in a fresh portion of the skin below the puncture, and discharged large clots of blood. The two openings were then laid into one. The discharge, though of a healthy character, possessed greater fætor, caused by disease appearing in the inferior maxilla, which had become deprived of its periosteum, the bone being scabrous and rough. The constitutional treatment consisted in the administration of the syrupus cinchonæ, occasional doses of camphor, with sub-carbonate of ammonia, and opium, and a guardedly generous diet. The case progressed favorably up to the thirteenth day from the application of the ligature, when the report states: 'Feb. 5th.—At about half-past eight o'clock last night, some hemorrhage took place from the incision made for taking up the artery; the blood was of a florid red colour, not much in quantity, and stopped of its own accord; after it, his pulse was full, strong, and 92; the dressings, which were not removed, were incrusted with blood; he rested very well during the night, till half-past six o'clock this morning, when hemorrhage again broke out; it came *per saltum* from the dressings, was of a florid red colour, and profuse in quantity; his flannel vest, shirt, and the sheet, were saturated with it as far down as his hips. When the dressings were removed it was arrested by pressure. Pulse very weak and easily compressed; surface of body and feet warm; says he felt a throbbing in his neck before the hemorrhage occurred; tongue rather moist and clean; complains of thirst.'

"Dr. Hargrave was called to him at seven o'clock a.m., and but for the clear, intelligent expression of his eyes, would have considered him moribund;

he was given some wine and water; a firm clot of blood glued up the wound; the ligature was *in statu quo*. All the parts were kept as quiet as possible, and dressed with matico leaves moistened in hot water, laid thickly over the incision, over which was placed a compress of lint, well saturated with an infusion of the leaf, and secured by means of adhesive plaster.

"Feb. 12th.—The report states: 'The ligature came away quite easily in the dressings this morning; some old clots of blood and sloughs also came away with it; no hemorrhage; the incision is granulating. An abscess is forming behind the angle of the jaw on the left side, which part is swollen and painful. In the original abscess there is a quantity of sloughy matter, apparently the remains of the cyst, while anteriorly there is a hard, elastic mass projecting into the opening of the abscess, and presenting the appearance of a gland; the inferior maxilla feels quite denuded of periosteum, and scabrous. The man sleeps well; his appetite is good; bowels regular; pulse moderate; tongue very clean. To continue the treatment.'

"From the date of the operation to the casting off of the ligature, twenty days and a half elapsed; subsequent to this his general health continued improving in every respect, but the original local disease showed no great tendency to heal; on more than one occasion, it appeared to exhibit something of a malignant character, but was always devoid of pain. He was discharged, at his own request, on the 13th March."

One of the most interesting features in this case is the successful management of the secondary hemorrhage, which took place on the thirteenth day after the artery was tied. As the blood came profusely, and *per saltum*, it would appear to have been from the cardiac side of the ligature. It was first arrested by pressure, of what kind is not stated. The wound was then dressed with matico leaves, moistened in hot water, laid thickly upon it; over which was placed a compress of lint, saturated in the solution, and this was secured by adhesive plaster. After this the same dressings seem to have been daily renewed; and Dr. Hargrave thinks it fair to infer that to this method of dressing was due the prevention of the return of the secondary hemorrhage, and he reckons it a valuable and simple application in such circumstances. He has found the infusion of this leaf most useful, as a styptic, in controlling the bleeding in persons of hemorrhagic diathesis.

The *method of operation* practised in this case is new, and is deserving of the attention of surgeons. "A *transverse incision* was first made through the integuments, about two fingers' breadths above the clavicle; the sterno-mastoid muscle was then carefully divided upon a director for its entire breadth, and the sheath of the vessels was easily brought into view, crossed by the omo-hyoid muscle, which was distinctly seen occasionally in action. The sheath of the vessel was next opened, and the aneurismal needle passed under the artery from without inwards; it was then armed with the ligature, the needle withdrawn, and the artery firmly tied: the hemorrhage was instantly arrested, and all pulsation in the temporal artery ceased. No blood was lost during the operation; only one small vein was met with, and that at the commencement of it. The internal jugular vein presented no impediment during its performance."

Dr. Hargrave adds, that, by thus cutting completely across the sterno-mastoid, he was enabled to come down upon the artery, "in the easiest way, with a free gaping wound, experiencing no impediment either from the eighth pair of nerves or from the internal jugular vein. My reasons for adopting this innovation were, the comparative shortness of the man's neck, and in order to obtain a sound portion of the integumentary membranes free from erysipelatous inflammation.

"In the subsequent steps of the operation, this selection proved to be most

fortunate, as it was discovered that the blood effused from the artery was extravasated as low as the cricoid cartilage ; so that if the usual line of incision had been adopted, along the anterior edge of the sterno-mastoid muscle, the certainty is, that I would have opened into the cavity formed by the effused blood, and would have found it almost impossible to have proceedcd with the operation so as to tie the vessel. I would have been inundated with blood, and ultimately obliged to abandon it, and adopt that very unsatisfactory and doubtful practice of plugging the wound with sponges and compresses, to procure, perhaps, but a temporary continuance of life.

" In none of the special works on operative surgery with which I am acquainted are any directions given for taking up the carotid artery as now detailed. I have been for some years in the habit of describing this operation in my lectures on operative surgery; and also of directing the attention of naval surgeons, who have performed a course of operations in surgery under my superintendence, to this operation. From the facility of securing the artery by the plan now proposed, I consider it deserving of a place in the systematic works in this department of surgery, and would term it the *Transverse Operation, or section of the sterno-mastoid muscle for the ligature of the common carotid artery.*"

On this case the Editor of the 'Monthly Journal' (Oct. 1849) observes :— [It does not clearly appear from Dr. Hargrave's remarks whether he would recommend this new method of operating in all cases, in preference to the usual method by incision in the course of the artery, or only in those, where, as in the case above detailed, the operator has very little room. The method cannot, of course, apply to the upper third of the common carotid, but to the two lower thirds where it is overlapped and covered by the sterno-mastoid. In operating by incision in the course of the artery at its middle third, sufficient room may be obtained by pulling the muscle outwards ; but opposite the lower part of the vessel, it is necessary to divide, as is usually recommended, the sternal portion of the muscle, when it presents in the wound. In like manner, the sterno-hyoid and thyroid muscles must afterwards be held inwards or divided, in operating towards or at the lower part, in order to expose the sheath. Unless the operator's space be very limited, from above downwards, the advantage of making the incision across, instead of over, the course of the artery, is not apparent, as the division of the sternal portion of the muscle in the latter affords ample room in front of the sheath. Very different accounts have been given as to the interference occasioned, in the operation upon the carotid, by the swelling out of the internal jugular vein. This will depend, in a great measure, on whether the sheath has been opened towards the outer or inner side. In the method of operating by transverse section of the entire sterno-mastoid, the vein is more likely to be exposed ; but, in Dr. Hargrave's case, no trouble was occasioned by the vein, although the operation was low down on the left side.]

2. *Mode of rendering the Ulnar Artery more accessible.*—M. Malgaigne* has reeently drawn attention to a method of rendering the ulnar more accessible. The means suggested by M. Malgaigne, the efficacy of which the reader may at once test upon his own person, will be found of great utility, when circumstances prevent our feeling the pulse at the radial artery, or when it is desired to take up the ulnar. He thus describes it :—" I have several times had occasion to place a ligature around the ulnar artery for lesions of this vessel; and when the cellular tissue is gorged with effused blood, and it is

* Révue Médico-Chirurgicale; Brit. and For. Medico-Chirurg. Review ; Monthly Journal, May 1849.

necessary to seek it at a considerable depth, I do not hesitate to term it a very difficult operation. Perhaps the means I am about to state will assist in removing the principal difficulty, which especially depends upon the depth of the artery. If the fingers and hand are turned forcibly backwards upon the dorsal aspect of the fore-arm, the relations of the ulnar artery become surprisingly changed. The deep-seated muscles upon which it lies are forcibly raised, and cause a sensible projection under the skin. The tendon of the flexor carpi ulnaris, on the contrary, retreats inwards and backwards; so that the artery, which, in the natural position of parts is partly concealed by it, is now forced to a much more anterior plane, and lies four or five millimetres on the inner edge of the tendon. In many subjects it becomes more superficial than the radial, and it may be seen raising the skin at each pulsation.

"In traumatic lesions of the vessel, the same position brings the wounded extremity of the vessel towards the surface, and enables us to seize it; and in any case, when we wish to pass a ligature around the vessel, there will be no longer occasion to denude and draw away the tendon of the flexor."

3. *Treatment of Aneurism by Compression.*—This subject, to the practice of which, in America, we in our last Report referred at some length, still continues to engage the attention of the profession, particularly in Ireland.

In the Surgical Abstract in the present volume, Art. 48, we have given a descriptive account of Dr. Carte's new instrument for the treatment of aneurism by compression.

Mr. Tufnell* brought the subject again prominently before the Surgical Society of Ireland at their meeting in April last, and related the following interesting case of popliteal aneurism, in which both lower extremities had been the subject of this disease within a period of fifteen months, and in which compression had been twice resorted to, and with perfect success.

In prefacing the history of the case, he observed that the treatment of aneurism by compression had been already so fully considered by Dr. Bellingham and other writers, and such numerous cases terminating in a favorable result have been recorded, that it might seem superfluous further to advocate a mode of cure, the employment of which has in this country been generally adopted.

Objections to its use are still, however, raised elsewhere, and prejudice against its adoption in many quarters appears to exist. He was induced, therefore, to bring this case under the notice of the society, as it tends to remove prejudices and objections, and to prove that the treatment of a disease, which formerly could only be undertaken by metropolitan and hospital surgeons, can now be successfully met by those in country and dispensary practice.

Being satisfied in his own mind of the general applicability of pressure, and of its power of adoption in cases where the ligature could not for various reasons be applied, he resolved to conduct the management of the following case in the dwelling of the patient himself. The result he now details, together with a few remarks upon points connected with the treatment of aneurism by compression, which have not hitherto been fully explained.

The subject of the case was a sawyer, 27 years of age, who came under Mr. Tufnell's care on the 3d of November, 1847. Four months previously he had been suffering from constant aching pain in the right ham, which first occurred whilst running. He did not take much notice of it, and continued at his labour. He had formerly been a spirit drinker, but having taken the pledge, had kept it up to the time of the races, when he began again to drink

* Reported in Dublin Med. Press, May 16, 1849.

to excess; and he stated that the throbbing and pain had both sensibly increased after each intoxication. He had at the same time (four months before) also contracted venereal sores, for which he had been placed under the influence of mercury. The superficial inguinal glands had been inflamed, and at the period of applying for advice were irritable and tender. His health, he said, had latterly declined; he sweated upon any exertion, was readily frightened, and suffered from occasional palpitation; his pulse was 90 and irregular, but the sounds of the heart were natural.

The tumour itself filled the whole popliteal space, measuring three inches and a half across by three inches from above downwards. Its contents were perfectly fluid, a loud bruit accompanying the entrance of the blood when the limb was horizontal, which was indistinct when the patient stood erect. The centre of the tumour was painful; the integuments covering the sac, though not discoloured, felt to the touch scarcely thicker than a crown-piece. The temperature of the tumour was sensibly lower than that of the adjacent parts.

Pressure upon any portion of the femoral artery completely controlled the pulsation, the blood flying into the sac on its removal with a loud whirr and a jerk, that caused much pain to the patient. He had constant numbness of the leg and foot, as also œdema of the limb.

Treatment was commenced upon November 5, at two p.m. Twelve ounces of blood were taken from the arm, and a drachm of the compound powder of jalap administered. At six p.m. pressure was applied. Read's instrument was placed upon the artery in the groin, and Savigny's ring tourniquet at the middle third of the thigh. The pulsation was entirely checked, and the patient instructed how to alternate pressure. This was kept up through the night until six a.m., when the pain became severe, and he removed the instruments altogether.

Nov. 6 (second day). Pressure was reapplied as before. Patient slept at intervals with the instrument on: pulse 78 and full; bowels affected once; no change in the tumour. Ordered to repeat the compound powder of jalap and pressure as before.

7th (third day). Inguinal glands inflamed; Read's instrument consequently removed, and the patient instructed how to make pressure on the artery with his thumb against the pubis, a lodger keeping his hand upon the tumour to ascertain the slightest return of pulsation, and to direct increased pressure accordingly. The ring tourniquet was moved to the entrance to the canal in the adductors. At the evening visit, the leg was found to be œdematous, and the patient complaining of numbness throughout the limb. This was speedily removed by bandaging with a flannel roller, and elevating the limb on a stretcher made for the purpose.

8th (fourth day). Patient making no complaint; the ring tourniquet has been continued on the thigh, and pressure by seven-pound weight substituted for that of the thumb in the groin. Ordered to repeat the compound powder of jalap.

9th (fifth day). Says he has not slept; that there is much pain in the tumour; that he dreads unscrewing the ring tourniquet from the increased pain occasioned by the jet of blood into the sac; patient slightly feverish, and complaining of headache; bowels moved freely by the cathartic. Ordered to continue pressure, and repeat the jalap as before.

10th (sixth day). The pain in the tumour diminished towards morning, when the patient slept, and awoke free from thirst. He states that he does not now feel the blood jerk into the sac as heretofore, and that he does not

mind its influx. Two clamps were substituted for the ring tourniquet and weight, one being placed at the centre of Scarpa's space, and the other at the upper portion of the canal in the adductors.

12th (eighth day). Sac solid; not the slightest thrill through the tumour; a large collateral vessel running down over the centre of its surface; slight numbness only of the limb; temperature natural; compression continued for precaution's sake.

18th. Seven days since pulsation ceased, and thirteen since compression was commenced. The tumour is now perfectly smooth and hard, and appears to be directly under the skin; superiorly, it fills the whole space between the hamstring tendons, and, inferiorly, sinks deep between the heads of the gastrocnemius muscle. Sensation is perfect both in the foot and leg, slight numbness only remaining; circulation is assisted by three superficial vessels, one running down over the centre of the tumour, a second on the outside over the head of the fibula, and a third on the inside of the knee. Is taking exercise with the aid of a stick, *in every respect perfectly well.*

On the 10th of December he returned to his work as a sawyer (under man in a pit), and continued at uninterrupted employ until the 13th of November, 1848. He presented himself again on this day, stating that he was afraid something was the matter with the opposite knee, as it had for some short time felt stiff. He had not run, jumped, or taken any violent exercise, but had been working in the wet, and he thought, therefore, that the pain was rheumatic.

Deeming it almost certain, from his history, that aneurism was about to form, I examined the part most carefully, but not the slightest tumour, bruit, or other diagnostic sign, could be found to exist in the ham. The temperature of the limb was natural, the posterior tibial artery could be felt at the ankle, and there was no œdema of the foot.

He was desired to foment the joint, and attend again in a few days. On the 26th he made his appearance, and in this brief interval a considerable change had taken place. Pulsation was now perceptible; and, upon examination by the fingers, a tumour could be felt deep in the popliteal space, two inches and a half in length by an inch and a half in breadth, the contents of which were fluid, and into which the blood entered with much force, and a loud single souffle. The pulse was 84; the action of the heart was regular; no trace of disease could be detected in this organ; but the patient stated that occasionally a slight difficulty of breathing and tightness across the chest would exist.

During this fortnight he had been following his occupation as a sawyer. On the 27th of November treatment was a second time commenced in the lodgings of the patient. A ring tourniquet, on Savigny's principle, but fitted with Dr. Carte's elastic apparatus, was placed upon the middle third of the thigh, and the patient directed to make pressure upon the artery in the groin with his thumb, or a seven-pound weight, when he wished to relieve the other point of compression. He wore the tourniquet without inconvenience for six hours, then removed it and went to sleep.

28th. The instrument was readjusted, and pressure continued as before; no change.

30th. Progressing favorably; less pulsation, and the bruit not so distinctly heard; pulse 72; sleeps soundly at night by relaxing the pressure.

Dec. 14th. Little change since last report until five o'clock yesterday afternoon. The patient stated that about that hour he was seized with nausea, succeeded by general tremor and clammy condition of the surface of the body. To this a sharp, burning pain speedily succeeded, running from popliteal

space to the outside of the leg. This lasted for half an hour, and then subsided. At nine p.m. he removed the clamp, and found that all throbbing had ceased. His wife, who was well acquainted with the pulsation, examined the limb, as well as the patient himself, and was satisfied that the disease was cured. Pressure was accordingly discontinued, and at eleven o'clock he fell asleep. On awaking at six this morning, the throbbing had returned; and when visited at noon the pulsation of the sac was as strong as on the day before; a vessel of large size, however, could be distinctly felt running over the centre of the tumour behind. Compression reapplied as before.

20th. Pulsation becoming daily more feeble; bruit now scarcely to be heard.

26th. The sac decreasing rapidly in size, not being larger than a walnut, with very slight pulsation in it.

9th. *Sac solid;* at twelve o'clock a general sensation of faintness came over the patient, which was succeeded by burning pain in the tumour and down the outside of the leg: on its diminishing, he fell asleep, and on awaking, all pulsation had ceased.

February 10th. The popliteal space was examined to-day; no sign of the sac now remained, excepting a small hard body about the magnitude of a horse-bean, which lay in the course of the artery; the temperature of the limb was equal to that of its fellow; the patient had now been at his work as a sawyer for upwards of three weeks.

Mr. Tufnell, in his remarks on this case, observes that "compression was put fairly to the test, and that its success was complete. Though the patient was a man of intemperate habits—though the treatment was conducted in a small crowded attic, with two families living in the room, and closet adjoining—though the management of the instrument was left in a great measure to the patient himself, yet a cure was accomplished in the first instance in a less number of days than would have been required to have prepared him for the operation of tying; and in the second he was again at his labour in a period fully as brief as could have been anticipated from the most successful application of the ligature, being at the same time spared every danger attendant on it.

"Before attempting to prove the futility of the objections which have been raised against the treatment of aneurism by compression, I will make a few remarks upon the case just detailed. The first point worthy of attention is the difference in the length of time occupied in the progress of cure. It may seem difficult to ascribe a reason why a small and recently formed sac should in the same individual require nearly seven times as long for its obliteration as one of older standing and of larger size, but I think it may be shown to depend partly upon the disease itself, partly on the mode of cure.

"When an aneurismal tumour has acquired sufficient magnitude to fill the whole of the popliteal space, the tension or the fascia upon it has the effect of compressing the sac; thereby obstructing the current of blood through the vessel itself, and causing the collateral vessels to enlarge, indirectly paves the way for the future cure—a condition which, I conceive, may be materially assisted by treatment directed to the circulating system itself.

"The first time that this patient was under treatment, venesection was employed at the onset with the view of diminishing the quantity of blood, and thereby reducing tension of the vessels. At the same time, a serious drain upon the intestines was established by the compound powder of jalap. The supply of fluid was limited to a small quantity of tea; thirst, when present, was allayed by a diuretic in the form of imperial drink, and the diet was restricted to bread, butter, and biscuit, with a little stirabout at night;

everything, in fact, being done with the view of diminishing the serum, and leaving the blood in a highly concentrated condition. In addition to these general measures, pressure upon the artery was maintained uninterruptedly night and day.

"On the other hand, the second time that he came under treatment no such exactions were made. His ordinary habits of living were not interfered with (excepting that he was forbidden the use of spirits and beer). Purgatives were only resorted to when constipation ensued, and pressure for the most part was intermitted at night. It is to this, indeed, that I mainly attribute the tediousness of the cure, for until the collateral circulation is well developed, so as to divert the blood from the main artery of the limb, its every effort will be to take the larger and readier course. (This enlargement of the anastomosing branches is visible in many instances prior to obliteration of the sac.)

"The second time of being under treatment the superficial vessels were developed on the 14th day, and upon this night pulsation temporarily ceased—an effect which would, I consider, have been rendered permanent, had not compression been abruptly removed.

"The return of pulsation in this case goes far, I think, to show that the final obliteration of the sac is owing to the gradual filling up of the cavity with fibrine, and not that the lower opening of the artery becomes suddenly plugged by a portion of this substance which may become detached, and that coagulation consequently ensues. Were this the case, when once the vessel was closed pulsation could not possibly recur. I consider rather that, as soon as the collateral vessels are sufficiently dilated to afford free passage to the current of blood, too little passes through the sac to cause dilatation of it, and that the stream then becomes so diminished that a few hours are sufficient for the total solidification of its contents; but if, prior to the complete obliteration of the cavity, pressure be altogether removed, the blood at once resumes its natural channel, and pulsation then returns. This should be a reason for continuing compression for twenty-four hours at least after the cessation of pulsation in the sac and an apparent cure.

"In alluding to the enlargement of the anastomosing vessels, I may refer to the uniformity with which these branches become developed. In the cases detailed, and in every other that I have been witness to, one vessel of very considerable size has run down the centre of the tumour behind, apparently beneath the integuments; a second on the inner side of the patella; and a third one (less constantly felt) outwards over the head of the fibula.

"The artery which runs down the centre of the tumour is sometimes as large as the radial, and is, apparently, from its direct position, the main medium of circulation after obliteration of the trunk. Judging from the injected preparation of limbs where the femoral artery has been tied, the vessel in question would appear to be the branch that accompanies the sciatic nerve (*comes sciatici*), which in cases of ligature of the femoral becomes tortuous and greatly enlarged; but it is so in this case, I consider, mainly, because the transmission of blood by the femoral being suddenly stopped, a corresponding increase is thrown upon the internal iliac and profunda.

"Under treatment by pressure, on the contrary, the femoral artery remains pervious down to the very sac, and from a careful dissection of the parts connected with popliteal disease, I am inclined rather to believe that the vessel in question is one which (though constant) has not hitherto received a name, and which, arising from the posterior aspect of the popliteal artery, five inches above the head of the fibula, and three above the bend of the joint, gives a branch to the semi-membranosus and also to the biceps muscle, and then runs

down through the centre of the space accompanying the external saphena vein.

"By a close observation of the course of the arteries surrounding the joint, I am also led to conclude that the collateral branch which generally is found to pulsate on the inside of the patella, is not the internal articular, but a branch of the popliteal, given off at least an inch above it, which, instead of running under the tendon of the adductor magnus, between it and the bone, passes superficial to the tendon, immediately beneath the integument parallel and in company with the tendon of the gracilis muscle. There is also a third arterial branch, which I look upon as being closely connected with the subject of compression; this is a vessel of considerable size, which, leaving the popliteal a little above the origin of the articular arteries, runs down, intimately connected, if not actually in the substance, of the communicans peronæi nerve. It is this artery, I consider, *that gives rise to that burning pain experienced at the period of cure; the sudden distension of the vessel, and its consequent pressure on the nerve, causing the painful sensation so universally described.*"

4. *On the Objections which have been made against the Use of Pressure for the Cure of Aneurism.*—Mr. Tufnell, in a paper read before the Surgical Society of Ireland, reviews the objections which have been urged against the employment of compression for the cure of aneurism. "These are, he remarks, "that compression is *painful*, *wearisome*, and *ineffectual*. I will grant that it may be rendered such if the mode of treatment be not thoroughly understood, or if instruments for controlling the circulation be employed which are not suited to the purpose, or are used with an unnecessary degree of force. In the first place, in adopting this treatment, it is desirable that the principle of cure should be fully explained to the patient, and that he should be made a willing party in carrying out the surgeon's designs; that, instead of being told to keep up pressure upon the artery at any particular spot for a given length of time, he should be recommended to raise the pad directly when it begins to cause annoyance, taking care, of course, that before doing so compression is made on another portion of the vessel.

"Pain, I may add, is often needlessly caused by not paying sufficient attention *to the minimum amount of pressure* that will control pulsation in the sac, but as if to make assurance doubly sure, giving two or three additional turns to the screw after this object has been attained. It is to the screw, indeed, that the suffering hitherto felt may principally be referred. Pressure in one form or other has, almost in every instance, been effected by its aid, and whether used in a greater or less degree, it has invariably been a dead, unyielding force, allowing no play or contraction to the muscular fibre beneath. This, the only valid objection to the use of compression, has now been entirely removed by the apparatus of Dr. Carte, and the introduction of an elastic pressure through the medium of vulcanized India rubber.

"In this instrument, the screw, as a means of compression, has been done away with altogether, its place being supplied by a band of vulcanized India-rubber. The advantages it offers are immense. Whilst I have never known a patient to bear compression by the screw for a longer period than *three* hours at once, in the case just detailed, Dr. Carte's apparatus was worn for double that time, and I have known it kept on for a longer period still. When first used the instrument was incomplete. It was so contrived that when the pad was let down on the artery it could only be lifted off it by manual force. This required the patient to raise himself to the sitting position in order to obtain a purchase, and to remain so, using considerable muscular exertion, until the parts beneath had so far recovered their

tone that the instrument could be reapplied. Its employment being, on this account, interdicted in cases where a suspicion existed of internal arterial disease, Dr. Carte was induced to add a male and female screw. By this simple modification every objection has now been removed; a few turns of the former raise the pad from off the vessel, whilst the latter retains it there. The infliction of pain by this instrument is really so slight that I am certain the strongest opponents to compression will, upon a trial, withdraw this charge.

"The second objection raised to compression is, that the treatment is *wearisome* and *prolonged*. This, as a general assertion, is not borne out by facts. There may be particular instances where the cure has been protracted to an unusual length; but, taking the average of the time which has hitherto been consumed in the cases that have been made public, nine and twenty days only have been occupied in the progress of cure, and this, too, be it recollected, at a time when the treatment was in its infancy and but imperfectly understood. Granting, however, that nine and twenty days are required for the cure by compression, let us contrast this period with the average duration of treatment by the ligature and knife.

"From the time that a patient with aneurism is admitted into hospital, until he is placed upon the operating table, we may, I think, safely regard it as a week; from the application of the ligature to its separation we may consider as sixteen days longer; and for closure of the wound and cicatrization we may reckon on seven days more, or a time, upon the whole fully as great at that hitherto occupied by compression. I have taken the average of all the cases hitherto treated by compression, and find it to be nine and twenty days. Were I to do the same with every case where ligature has been employed it would greatly exceed this time.

"But the sweeping assertion that compression is *wearisome* and *prolonged*, ill accords with cases that can be adduced, where not even days but hours were sufficient to complete the cure. I will specify two that within a recent period have come under my own observation. In the first of these, ten hours only elapsed before the pulsation had ceased; and in the second, a large femoral aneurism was solidified in thirty-three. This latter case is worthy of record. The patient was sufficiently recovered to be enabled to leave the hospital in ten days, and *to be married within three weeks from the time pressure was first commenced.* Can the advocates for the knife bring a parallel case to this?

"Lastly, the treatment by compression is said to be *ineffectual*. In reply, I would refer sceptics to the fact that, in a period of nearly four years, in all the hospitals of Dublin, and in private practice as well, the ligature has only been resorted to once, and this a case of traumatic aneurism at the bend of the arm, where the operation subsequently showed a high bifurcation to exist. I would, however, refer those who doubt to the records of this Society, to the able work of Dr. Bellingham, and the tables of Dr. Edwards Crisp. The latter may not prove satisfactory to those who affirm that the treatment by compression is *dangerous*, whilst that by the ligature is *easy*, *gentle*, and *safe*.

"In the work of Dr. Crisp are detailed 206 cases of femoral and popliteal aneurism. In 185 of these the vessel was taken up, and the result of which operations is shown in the following table:—

Died from the effects of the operation	33
Recovered, after suffering subsequent amputation . .	10
Recovered, after sloughing of the sac	3
Recovered, after mortification of the toes . . .	1
Recovered, after sloughing of the integuments . .	1
Making a total of	48

" So that more than *the fourth of the cases treated by the ligature either terminated fatally, or were maimed for the rest of life.* This, too, not occurring in the practice of young and inexperienced men, but to Hunter, Pott, Cline, Cooper, Bell, Guthrie, Lawrence, White, Brodie, Carlisle, Syme, Travers, and others of almost equal note. From this analysis, therefore, so far as regards the ligature, the conclusion to be drawn is, that, in the generality of cases of aneurism of the extremities, it should be laid aside. What object is to be gained by its use that is not equally attained by compression? Does its application exert any specific influence upon the sac? If so, I should, for information's sake, be glad to have it explained, for at present my conviction is that, as far as regards the ancurism itself, the effects of compression and the action of the ligature are *identically the same.* That in both cases the direct current is arrested, and the impulse of the heart no longer communicated to the sac. That the blood, previously propelled with an injurious momentum, now trickles harmlessly through the collateral vessels, eddying in its passage in the hollow of the tumour, and lining it with fibrinous layers.

" Such I believe to be the *modus operandi* of cure in either case, and where the condition of an aneurism is such as to allow of this effect being produced by means of the ligature, I am certain it will equally be the result of compression *if properly applied.*

" As to the success attendant upon the employment of compression, I will only add that, since the year 1843, no less than *thirty-five* cases have been published, in which the disease has been permanently cured without injury to life or limb. With these facts openly detailed, I consider that in the present day no surgeon is justified in taking up an artery for the cure of external aneurism *until compression has been tried and failed,* any more than he would be in operating for hernia without attempting to reduce the bowel.

" When prejudice can be overcome, and compression be as generally adopted as it has been in this metropolis, I feel certain that the operation of tying will be very seldom resorted to, and I do believe that, in the words of a recent writer upon the subject—'We may confidently look forward to the day when ligature in aneurism of the extremities will cease to hold a place in operative surgery, when it shall have become a matter of professional history, a practice of bygone days.'"*

5. The two following cases of aneurism, successfully treated by compression, have been communicated by Dr. Edward Hutton.

Case 1.—James Collins, æt. 34, a farm servant, was admitted into the Richmond Hospital on the 22d of July, 1848, for aneurism of the left brachial artery. He stated that two months previously he was bled in the left arm by a " country bleeder " for a pain in his chest. He remarked at the time that the blood spurted out to a great distance, and was of a bright red colour. There was much difficulty in stopping the bleeding, and the bandage was put on very tightly. In three days he removed it, and found that the external wound had healed, but beneath this he observed a small pulsating tumour. He, however, returned to his labour, and continued to work for about a month, when he was obliged to desist on account of pain, and a sense of weakness in the arm. The tumour had begun to increase a week before this, and pulsated strongly. No treatment was applied until his admission into hospital; the tumour was then about the size of a pullet's egg, and presented the usual characters of aneurism. When pressure was made on the brachial artery above the tumour, it lost its pulsation and tension, and yielded in some degree to pressure, but did not wholly collapse, indicating the presence of some coagulum in the sac. The skin covering this was of natural colour and thick-

* Dublin Med. Press, May 16, 1849.

ness. The radial and ulnar arteries pulsated distinctly at the wrist. Immediately on his admission into hospital, the treatment by compression was commenced. The instrument first used was the screw-clamp; and although the pressure was applied occasionally at different points in the course of the artery, and so regulated as only just to stop pulsation, yet he was never but once able to sustain it for four hours together. After using the screw-clamp in this manner at intervals for twelve days with but little effect upon the tumour, it was laid aside, and Dr. Carte's instrument was applied. With this the patient maintained the compression during six hours in succession, and made much less complaint of its application. At the end of this period all pulsation had ceased, and never returned. The aneurismal tumour did not, however, begin either to diminish in size, or to increase in firmness, until nearly a fortnight afterwards, when these changes commenced. He was detained in hospital until the 19th of September. The tumour was then very firm, and about one fourth smaller. Immediately on leaving the hospital he returned to his labour, and was actively employed in gathering in the harvest. In March 1849 the author heard from Dr. Harkan, of Elphin, and subsequently from the patient himself, that the tumour was very small and firm, that he felt no inconvenience whatever from it, and had the full use of his arm.

Case 2.—Philip Dignam, æt. 32, applied for advice on the 3d of January, 1849, for an aneurism of the left popliteal artery. The tumour was about the size of a hen's egg, situated in the lower part of the popliteal space. It pulsated strongly, and presented all the usual signs of aneurism. When the femoral artery was compressed the tumour became flaccid, and could be emptied of a considerable portion of its contents, but some solid coagulum remained. He stated that, about six months previously, he first felt a "stinging pain" in the ham; this was occasional only, and did not prevent him from following his usual employment. Two months before his application for advice, he first perceived a tumour, which was pulsating and painful, and attended with numbness and weakness of the leg. The tumour slowly enlarged to the size mentioned; his general health was good, and he had not confined himself to his house until a day or two before he came under treatment. On the 3d of January the author applied Dr. Carte's compressing apparatus. The patient was informed of the nature of his disease; of the alternative that awaited him if the plan of compression failed. The mode of managing this was explained to him, and he was exhorted to maintain the compression for six or seven hours, or longer if he could. He was very anxious to avoid an operation, and readily undertook the treatment. The next day, January 4, the pulsation in the tumour had ceased. He reported that he kept up the compression seven hours and a half in succession, and that, during the whole time of its application, no pulsation returned to the tumour, nor did it after the removal of the instrument. The temperature of the leg and foot did not appear to differ sensibly from that of the sound limb, but the thermometer was not applied. It was difficult to feel pulsation distinctly in the tibial arteries of the right leg, and impossible to do so in the left. Perfect rest and moderate diet were enjoined. After a week, some obscure pulsation was perceived, not dilating the tumour, but as if the popliteal artery was pervious along its base. Dr. Carte's instrument was, therefore, again applied for three hours, after which this pulsation was no longer to be felt. Two arteries were traced along the surface of the tumour, one about the size of the temporal, the other smaller. The case now progressed favorably, the tumour became very firm, and diminished in size. In less than four weeks from the commencement of the treatment, he returned to his employment in a butter crane, where he was engaged in lifting heavy weights. Dr. H. has since seen

him occasionally. The tumour, when last examined, was about the size of a nut, and of firm consistence. The pulse in the femoral artery could be felt along its course to within two inches of the tumour. He was free from all uneasiness in the leg, and in fact was completely cured.

Dr. Hutton remarks that Dr. Carte's application of an elastic force in the compression of arteries promises in a great measure materially to lessen the pain attending it, and thus to remove the only plausible objection to this mode of treating aneurisms becoming a rule of surgical practice. In the first case related, the patient was very sensitive to pain, and had not fortitude to endure the screw-clamp for the requisite period; while he was able to sustain the elastic force for six hours without shifting the instrument from the artery, and this period proved sufficient for his ultimate cure. In the second case, the compression was maintained during seven hours and a half without relaxation, which could not have been borne with the screw-clamp.

§ II.—*Injuries and Diseases of Bones.*

6. *Dislocations and Fractures of the Shoulder-Joint.*—Mr. Callaway* has in a late publication called the attention of the profession to this subject.

This work is the Essay for which the Jaeksonian Prize was awarded by the College of Surgeons in 1846. The author commences with a condensed and minute anatomical description of the parts concerned in the treatise, and then proceeds to the consideration of the various dislocations and fractures to which they are liable. A chapter is devoted to the consideration of injuries to the longer head of the biceps. The accident which is usually described as a partial dislocation of the humerus forwards, he believes to result from either dislocation or rupture of the long head of the biceps muscle. "In the first place," he says, "I cannot understand how it is possible for the head of the humerus to rest upon the anterior lip of the glenoid cavity, to be as it were balanced upon the glenoid ligament. Supposing, however, that it were so for a moment, it would be precisely in that position that we endeavour to place it in a complete dislocation, so as to favour and permit the action of the supra- and infra-spinatus muscles; to be stopped or entangled by the coracoid process, the bone must have left its socket entirely, or be completely dislocated; and I think that injuries to the head of the biceps so completely account for all the symptoms of the so-called dislocation (partial), that I cannot hesitate upon the point.

"Rupture of the tendon usually takes place in persons beyond the meridian of life, in whom the powers of nutrition begin somewhat to fail, and in whom that senile change, so well described by Sir H. Halford as a climaeteric disease, is about to set in; the usual situation of the separation is about midway between the glenoid cavity and the anatomical neck of the humerus. Should it occur within the groove, the effusion is greater, and the retraction of the separated portion to the belly of the muscle is more marked, because it, in this instance, escapes from the groove. When the injury has taken place more within the joint, sufficient connexion remains between the tendon, the synovial membrane, and the cellular membrane around it in the grove, to prevent this great retraction. The capsule of the joint is little if at all ruptured, and this forms one distinguishing mark between the two injuries (rupture and dislocation), because the effusion is less, the subsequent inflammation not so

* A Dissertation upon Dislocations and Fractures of the Shoulder-joint. By Thomas Callaway, F.R.C.S., Demonstrator of Anatomy to Guy's Hospital, &c. &c.

severe, and the patient sooner uses his arm. I am indeed much inclined to look upon rupture as a comparatively mild injury to the displacement, but occurring in persons of bad or deficient nutrition. Both dislocation and rupture are, besides the above-named symptoms, accompanied with lateral and posterior flattening of the shoulder, and prominence of the head of the bone anteriorly, from which latter circumstance it arises that the injuries are mistaken for a partial dislocation.

"In either of these injuries, I do not think that much can be done in the way of treatment. If I suspected from the symptoms a dislocation of the tendon, I fear that no plan I could devise would be at all efficacious in bringing it back to its true anatomical position. On the other hand, I think much mischief, as synovial inflammation, might be produced by any ill-directed efforts to accomplish the desired end. I should elevate the shoulder, and direct the patient to flex and extend the fore-arm, at the same time rotating the humerus, and then apply warm fomentation (a plan to be adopted in all sprains and injuries to tendinous structures), and advise perfect rest, taking great care to throw the head of the bone backwards by bringing the elbow forwards until all chance of inflammation had expired. At the end of a fortnight or three weeks, I should recommend passive motion, so as to enable parts to adapt themselves to their new position. Should it appear that the tendon was ruptured, I should adopt the same plan. Fomentations, rest, and afterwards passive motion, would be alll that the surgeon could advise; the vis medicatrix naturæ would do the rest. As the object would be to accustom the bone to its slight change of position, I should not employ either pads or bandages: a sling for the arm would be all that is necessary. It is, of course, possible that acute synovitis may set in immediately after the occurrence of either injury; it would be combated in the usual way."

In referring to the vexata quæstio of fracture of the cervix scapulæ, Mr. Callaway is disinclined to admit of the occurrence of such an accident. "The great strength of the bone at this part, the depth of its situation, and the protection it receives from surrounding structures, all tend to diminish the probability of the accident; should it occur, it must result from most direct violence, as a grapeshot passing through, or a cart-wheel passing over it; all indirect force, as contre-coup, &c., is quite out of the question in the production of the accident; and I should, primâ facie, be sceptical as to the existence of a fractured cervix scapulæ, were the injury said to be the result of a fall or blow—grounding my opinion on the natural solidity of the part, its protected situation, and the extreme mobility." In that portion of the essay which relates to the means available in the reduction of dislocations, we are at first surprised at the absence of chloroform among the auxiliary agents. The deficiency is, however, explained by a marginal note, to the effect that the treatise was written before the introduction of ether, and its more elegant and useful improvement, chloroform. As the work, however, is likely from its intrinsic worth soon to reach its second edition, this defect can easily be supplied. Most certainly that portion of it which treats of the anatomical character of those regions which the subject embraces, is the most concise, clear, and complete that we ever read.

7. *Disease of the Hip-Joint.*—Mr. Hugman has published a treatise* on this subject, with the view of illustrating the advantages to be derived from a system of mechanical management for the prevention and cure of the contraction of the limb. The author's object in this work is to make known the

* A Practical Treatise on Morbus Coxarius, or Hip-joint Disease. By William C. Hugman, M.R.C.S., &c. 8vo, pp. 82. London, 1849.

advantages which have been obtained under his observation, in the treatment of hip-joint disease, by the adoption of the prone position, accompanied with general remedial measures. "The important object to be attained by the treatment recommended, is, that the shortening and contraction of the affected limb, which so commonly occur during the progress of the disease, may be prevented."

After giving an outline of the symptoms and progress of this disease, as also an excellent account of its pathology, he proceeds, under the head of treatment, to enforce the management of this disease by mechanical means.

"The principal object to be had in view in the treatment of hip-disease," he says (*the necessity of rest being once admitted*), "is to obviate the tendency which the patient has to assume a position in bed which generally of itself ultimately induces a great amount of distortion. The plan which I have pursued is extremely simple, and has proved efficacious. It consists in placing the patient in the prone position upon a couch suited to the purpose, and after the manner proposed by the late Dr. Verral."

The "prone couch" recommended by the author is a very simple one. It consists of a horizontal board, two feet in breadth, and of the length of the patient's trunk, supported in front at a height of from two to three feet, and behind by another and longer board, which slopes gradually to the ground, on which it rests; and on these a hair mattress is laid. The horizontal part supports the trunk, the chest being slightly raised; the lower extremities rest on the depending part, a cushion being placed below the ankles; and the angle between the two planes corresponds to the front of the hip-joints. In regard to the apparent awkwardness of this position, the author alludes to the fact that, in the advanced stage, there is always a tendency to assume the prone position in bed, in order to take the pressure off the affected hip; and the apparent objection, that "the play of the ribs and abdominal and thoracic muscles is restricted," is met by the remark, that the author, after eight years' experience, has "never known it to produce such effects, or it would long ago have been abandoned." On the contrary, it would appear, from the author's observations and cases, that after the position has been maintained for a few hours, it becomes an extremely easy one, and is much preferred to any other by the patients, who are described as having been able variously to engage in reading, drawing, sewing, and even in practising on the piano. The advantages attributed to this position, in addition to the relief it affords, are, that it does not admit of contraction or shortening of the limb taking place; the joint is kept at rest in a partially flexed condition, by which more especially the psoas and iliacus and rectus muscles are relaxed, and all pressure is removed from the affected part; and facility is afforded for the application of any topical remedy that may be required. This position has been also found very advantageous in cases where there was sloughing of the back or nates, from long-continued pressure on these parts in the supine position; and it will prove no doubt a useful expedient when there is a tendency to that occurrence in any case in which there has been long confinement to bed.

If the limb is already shortened, unless there is contra-indication from the condition of the affected parts, extension may be gradually made by a simple contrivance appended to the couch; and cases are given in which several inches of shortening, arising from pelvic obliquity, accompanied by corresponding spinal curvature, existed, in which the use of the extension-apparatus restored, without pain or difficulty, the limb to its natural figure and length.

The author also makes some observations on the medical treatment of this

disease, and appears principally to rely on the use of cod-liver oil in this affection, although iodine and proteine are also highly spoken of.

8. *On the Treatment of Morbus Coxæ, in its early Stages, by Mercury.*—This practice, said to have been originally introduced by Dr. O'Beirne, of Dublin, has recently been advocated by Dr. Bellingham, who relates cases in illustration. In giving rules for this plan of treatment, he observes, that, in order to ensure all the benefit which mercury is capable of effecting, the treatment should be commenced at as early a stage of the disease as possible. Mercury, although almost a specific in one stage of this complaint, cannot be expected to have such an effect when the disease has advanced to complete disorganization of the joint—indeed the same remark applies to many other diseases and to many other remedies besides mercury in morbus coxæ: a medicinal substance which is an active remedy in one stage, proving either useless or positively injurious in another stage of the same disease. This perhaps may be one reason why a plan of treatment which possesses so many advantages, is not more generally adopted; it unfortunately too often happening either that the patient neglects to seek advice in time, or the disease is overlooked or mistaken in its early stage, and the treatment is only commenced at a period of the disease when the same amount of benefit cannot be expected from the exhibition of mercury.

In order to ensure the beneficial effects of mercury in morbus coxæ, it is also absolutely necessary that the joint should be maintained in a state of perfect rest; the patient is of course to be confined to bed, and all motion strictly prohibited. When the treatment has failed, it has probably been owing more to neglect of this precaution than of any other. It is impossible in the majority of cases to make either the patient or his parents comprehend the necessity for absolute rest of the joint; as soon as the patient obtains some relief from pain, he is inclined to get up and move about, and his parents, under the influence of old-fashioned prejudice, that "confinement to bed will weaken him," do not interpose to prevent it: the consequence is, that the disease progresses, and the mercurial plan of treatment is brought into undeserved discredit. For this reason, the treatment of private patients labouring under this disease is less satisfactory than of hospital patients: in the latter we can enforce the measures which we consider necessary, and we are sure that they will be carried out; whereas in private practice most of those whom I address probably know from experience that we seldom can have the same assurance.

In the majority of cases, it appears advisable, in addition, to take blood from the vicinity of the joint by means of leeches or cupping, or both, and the nearer to the affected part the better; hence leeches over the front of the articulation often give more relief than cupping above the trochanter. The local abstraction of blood is not absolutely necessary, as Dr. O'Beirne has shown, but as it generally contributes to relieve the pain, I have always employed it. Subsequently counter-irritation, by means of blisters in the vicinity of the joint, will generally be advisable.

Notwithstanding that the plan of treating morbus coxæ by bringing the system quickly under the influence of mercury, has been before the profession for some years; and although it possesses many advantages over other modes of treating this disease, surgical writers do not appear to be aware of its full value. If we turn to works on surgery, or to special treatises upon this disease, we find it insisted on by few, the name of the surgeon who introduced the practice hardly mentioned, and scarcely a reference to the published cases which have been successfully treated in this country; arguing either that sur-

gical writers are not generally aware of its advantages, or if they have employed it, they cannot have done so at the period of the disease to which the treatment is most applicable, or observed the precautions in its administration originally pointed out by Dr. O'Beirne.

In the foregoing remarks, the author has confined himself to the immediate subject of his communication, and has contented himself with noticing the power which mercury possesses of cutting short hip-joint disease in its first stage, and of thus saving the patient from the pain which he would necessarily have undergone, and from the deformity which would have ensued, if the disease had been allowed to pursue its usual course. Dr. O'Beirne has employed mercury with equally beneficial results in the more advanced stages of this disease, as well as in ulceration of the cartilages of other joints, and since the year 1834, when he first called the attention of the profession to it, his experience of its value has been most ample.*

§ III.—*Injuries and Diseases of the Abdomen.*

9. *Hernia.*—Mr. Hancock† has recently published some very valuable essays on Petit's operation for strangulated hernia. The following may be regarded as a summary of his views, which we here place on record, that they may be fairly balanced against the opinion advanced by Mr. Gay in his recent work on hernia, of which in Vol. IX we gave an analysis :

— *History of the operation.*—The subject of strangulated hernia having lately been brought prominently before the profession, by the publication of Mr. Gay's work upon 'Femoral Hernia,' Mr. Hancock submits the following remarks, not as presenting novelty, but rather with the view of eliciting the opinion as to the best mode of operation, as well as the general treatment to be adopted in cases of strangulated hernia.

The recommendation of not opening the sac has at various times been ably advocated by Petit, Le Dran, Monro, Sir C. Bell, Bransby Cooper, Aston Key, Luke, and Gay, in whose hands it has been successful, particularly in those of Mr. Luke; whilst the statistics advanced by the latter gentleman certainly appear, at first sight, greatly to favour this mode of proceeding.

On the other hand, it has been as ably opposed by men of equal, if not greater, eminence—Dupuytren, Richter, Hey, Heister, Sir A. Cooper—excepting in old and large incarcerated herniæ, Lawrence, and more recently by South; whilst a closer inquiry into the statistics and arguments adduced in its favour, tends greatly to diminish its claims to superiority, and proves, that the mortality after operations for strangulated hernia depends, in most instances, upon causes entirely independent of the operation; that opening the sac does not, in reality, increase the danger; but that, on the contrary, the advantages of this method are so great, that, as a general rule, it ought to be adopted as the safer mode, and presenting the greatest certainty of success.

— *Stated Advantages of the Operation.*—It has been urged by the advocates of Petit's operation, that, by its adoption, we avoid the following dangers :

"Peritoneal inflammation, consequent upon the exposure of an inflamed or strangulated portion of the bowel, which, according to Key, is the cause of death in the majority of cases.

"Hemorrhage into the cavity of the abdomen, should a vessel be wounded.

"Risk of wounding the intestine.

* Dublin Medical Press. † Lancet, July, Aug., Sept., 1849.

"Rupturing the bowel, by drawing it down from under the stricture, as sometimes arises from an ulcerative process induced in the bowel by the pressure of the edge of the constricting band, which accident cannot attend the division of the stricture on the outside of the sac.

"Opening the sac, and thereby laying bare the peritoneal cavity of the abdomen.

"Immediate manipulation of parts so important to life; and, according to Gay, inducing unhealthy processes in the external wound.

"Exposure of a portion of bowel, possessing feeble powers of resistance to the morbid influence of air, light, &c., giving rise to fatal inflammation and organic changes, not present at the time of operation.

"Extreme prostration, speedily followed by death, in cases where great depression of the powers is observed to precede the operation, without any other obvious cause than the exposure of the bowel.

"Danger of disorganization, from exposure of contents of hernia bruised by the taxis.

"Small collections of pus, at the mouth of the sac, after the operation for opening the sac."

— *Examination of Objections to the usual Operation.*—In the first place, the author inquires, are these objections valid or tenable?

We have seen, he states, according to Key, that in the usual operation the majority of fatal cases are consequent upon the exposure of the inflamed or strangulated portion of the bowel, caused by opening the sac; but this opinion is by no means conclusive, notwithstanding it is supported by the experiments of Monro. Comparatively few patients die of simple peritonitis after this operation. Out of fifty-two fatal cases instanced by Gay, the symptoms of peritonitis alone existed only in eight, and in these the symptoms were so slight as to lead to the supposition that the patients died from the shock to their systems, rather than from the peritonitis. It is an interesting fact, that the amount of mortality is not in the same ratio as the extent of peritoneum and intestine exposed. Cases recorded prove the smaller herniæ to be those which present the most urgent symptoms. It is true that the observations made by Mr. Key, respecting the danger of opening the sac, and thereby laying bare the abdominal cavity, were made nearly twenty years ago, but the author expresses surprise that they should be urged so earnestly in the present day as they are by Mr. Gay, in his work 'On Femoral Hernia,' and he disagrees with that gentleman, as to the danger of cutting the peritoneal sac, or even the peritoneum itself. The history of strangulated hernia proves, by every-day experience, that the peritoneum may be cut with impunity. He is willing to admit that, if we cut or irritate healthy peritoneum, we may induce peritonitis, although even this does not always occur; but if we cut inflamed peritoneum, the inflammation does not necessarily increase, especially when that inflammation results from some exciting cause, and by our incision we remove that exciting cause. Our incision thus becomes a relief to the patient, whereas, when made in healthy peritoneum, we inflict a violence on the part. He believes, and is supported in this belief by the observations of Sir C. Bell, that we may cut diseased peritoneum with greater impunity than healthy. The abdominal sections for ovariotomy prove this; the removal of large portions of omentum proves it; the operations for paracentesis abdominis prove it; and the success which attended a case of cæcal disease, reported by the author himself, tends to prove it. Again: is the general peritoneal cavity laid bare by opening the sac? It must be remembered that the communication between the sac and abdomen is completely closed by the protruding gut

or omentum, and that, even when the intestine is returned, it usually lies so close to the ring, that very little, if any, air can penetrate the abdominal cavity, even if it should be injurious, of which the author has great doubts, having had patients, who, from wounds, have had the abdominal cavity exposed for a much longer time than would be required for the operation for strangulated hernia, and who have recovered without any urgent symptoms; and, moreover, Key's own observations negative this position, inasmuch as he says, "In tracing the inflammation consequent upon the operation for hernia, it is found to spread from that portion of the bowel that has been strangulated, over the peritoneal surface of the intestines, and not to have its origin from the incision in the sac, although two wounds are usually inflicted upon it. The peritoneum, about the seat of stricture, exhibits fewer signs of acute inflammation than the investment of the bowels"—a conclusive proof that the danger and inflammation result from the violence inflicted on the gut itself, by the strangulation, and that opening the sac, and thereby laying bare the abdominal cavity, have literally nothing to do with the fatal termination; for Key admits that the inflammation does not emanate from the peritoneal sac, although two openings are made in it; also, that the peritoneum, at the seat of stricture, exhibits fewer signs of inflammation than the investment of the bowels, although this portion of peritoneum next to the sac would be the most exposed to the influence of light and air; and, besides, if laying bare the abdominal cavity exerted any influence, it is right to assume that the peritonitis would be generally diffused over the whole peritoneal surface, and not confined to the constricted intestine.

Mr. Lawrence and Mr. South differ from Monro and Key as to the influence of air, light, and handling, in producing fatal inflammation and organic changes not present at the time of operation, and assign such pathological changes to the pressure of the stricture which affects the parts, not, like the slight violence of the operation, for a few minutes only, but uninterruptedly for hours.

Cases certainly occur "in which the patient appears to be doing well after the operation, but after the lapse of two or three days the powers begin to sink; the abdomen, though not very tense, is uneasy under pressure, the pulse small and quick, and the tongue becomes coated; this condition is perhaps protracted for several days, and the patient at length dies. A post-mortem inspection discovers the cause of death in the dark colour and lacerable condition of the strangulated portion of bowel, and the vascular state of the surrounding parts; and we are told that "this unexpected termination usually takes place in patients of enfeebled constitution, whose powers are unequal to the restoration of the healthy circulation in the strangulated bowel after its release from the stricture, and in whom, therefore, a slight degree of inflammation gradually ends in the extinction of its vitality; at the period of operation, the intestine, when exposed, presents none of the usual indications of present or approaching gangrene; no infiltration of its tissues; no discoloration beyond that which retarded circulation in a healthy bowel produces; no lack of peritoneal lustre, and no lacerability of texture. It in no point appears to differ from those cases of strangulation in which an early operation is had recourse to before severe symptoms come on, and in which a favorable prognosis is verified by a rapid convalescence. Exposure of a portion of bowel possessing such feeble powers of resistance to morbid influence cannot but tend to increase, probably to excite, a disposition to inflammation, which, though low in degree, is sufficient to destroy its vitality, and it may therefore be fairly regarded as the main agent in the production of gangrene."

The author agrees as to the occurrence of such cases, but not with the deductions advanced. He considers that if the gangrene of the gut were really due to the cause assigned, such cause and effect would more quickly and uninterruptedly succeed each other; and asks, would the patient appear to be doing well after the operation?—would the evacuations be free and natural, and the pain and sickness cease for the first two or three days? In some instances, where the patient has been almost collapsed when the gut has been so much injured as to render it doubtful whether it any longer preserved its vitality, as in Sir A. Cooper's case, such almost lifeless intestine has been left exposed in the wound, the stricture being divided, and the exposure, so far from destroying the patient, has been followed by complete success, the gut recovering its almost suspended vitality, and the patient ultimately doing well. The fatal terminations may, the author believes, be much more correctly ascribed to the purgative medicines administered, both before and after the operation; the gut has been subjected to violence, from the constriction, almost too great for its power of restoration, but in consequence of the continued irritation kept up by the purgative medicines, the feeble efforts at recovery are overcome, and mortification is the result. That purgative medicines are productive of these bad consequences, and that such terminations occur equally where the sac has not been opened is fully demonstrated by cases on record.

As to the risk of wounding the intestine being diminished in Petit's operation, in those cases best adapted to this method, Mr. Hancock affirms that there is actually less danger of meeting with this accident by opening the sac in the ordinary way, and at the proper situation, than by endeavouring to divide the stricture external to, or at the neck of the sac. The intestine has doubtless been wounded by the surgeon in trying to divide close and intimate adhesions, but these are cases to which it is generally admitted Petit's operation is not applicable. Mr. Hancock has also seen the intestine wounded at the first cut through the integuments, but this was entirely carelessness on the part of the surgeon, and the same accident might occur equally in the one method as in the other, unless due caution were observed. He objects to the instructions laid down by Sir C. Bell and others, that the sac should be opened close to its neck, as a proceeding attended with unnecessary risk, from the parts being so firmly compressed; and, for the same reason, Mr. Luke's plan of scarifying the thickened neck of the peritoneal sac at different places, without penetrating its entire thickness, is considered extremely hazardous, a needless running into danger; and although it may have proved harmless in the hands of Mr. Luke, who is a very delicate and successful operator, it will, the author thinks, lead to bad results should it be universally adopted. Mr. Hancock always opens the sac at its lower portion; in this situation there is less danger of meeting with adherent intestine; if fluid be present, it will be met with here separating the sac from its more solid contents; if there be no fluid, the sac may then without much difficulty be separated from the intestine, if a small fold be pinched up, and gently rubbed together between the finger and thumb. The increased cut thus made in the peritoneal sac does not at all diminish the chances of the patient's recovery. Neither is the exposure of the intestine for the short time necessary for its reduction attended with half the danger incurred by cutting through the consolidated and adherent tissues at the neck of the sac. Mr. Gay has lately introduced a modification of Petit's operation for femoral hernia, consisting in "making the incision on the inner side, and at a little distance from, instead of directly over the hernial tumour, then introducing the forefinger into the wound, and

carrying it upwards and outwards to the neck of the sac, afterwards carrying the blunt point of the bistouri caché, guided by the tip of the finger, through the cribriform fascia, up the canal, to the ring, where it meets with resistance from the seat of the stricture; this resistance is to be overcome by the least amount of force, and with the aid of a little gentle compression of the inner side of the tumour by the finger, and the point of the bistoury may then be insinuated between the sac and the pubic margin of the ring." Mr. Hancock does not think this operation presents any superiority over those of Petit and Luke, neither does it carry out the principle contended for by Mr. Gay, of not making the incisions deeper, or wounding more structures in the course of an operation than are absolutely required, or of leaving the hernial sac uninterfered with. The neck of the sac must be reached whether the stricture be got at directly in front or on the inner side, the only difference being, that in the one we can attain that end directly, in the other in a round-about manner, and in the dark—a very objectionable mode, as the surgeon should always, if possible, see what he is about; neither can it be at all admitted that there is more danger of wounding the intestine in opening the sac in the ordinary operation than in forcing the blunt-pointed bistouri caché (although with the least amount of force) between the strangulated femoral hernia and the pubic margin of the ring, at the very point of all others where ulceration of the gut takes place from the pressure exercised by the sharp edge of Gimbernat's ligament, as has been noticed by Chevalier, Breschet, and indeed by all surgeons of any experience. He admits that, as yet, accidents attending this part of the operation have not been recorded; on the contrary, it is stated to be particularly successful, and, indeed, so easily performed, that were it not for the known judgment of the operators we might almost feel inclined to doubt whether constriction actually existed in many instances where it has been adopted. It is true, also, that the intestine rising over the edge of the knife has been wounded in the usual operation at the time of dividing the stricture, but this has occurred from a director having been employed instead of the finger; if the latter be used, it is sufficiently wide to keep down the gut, and even should it rise up, the surgeon will feel its position, and be able to avoid it accordingly.

Again, as to rupturing the bowel by drawing it down from under the stricture, as sometimes arises from ulceration induced by the pressure of the edge of the constricting band, and which accident, it is stated, cannot possibly attend the division of the stricture on the outside of the sac. It is extremely doubtful whether this accident can occur if the stricture be properly divided before traction is made upon the gut, unless, indeed, a degree of unnecessary violence be employed, which, under any circumstances, the surgeon would be unjustified in using, or that ulceration had proceeded to such an extent that the patient's life would be placed in less jeopardy from the bursting externally even at the time of the operation than by being returned into the cavity of the abdomen and allowed to burst internally, as has unfortunately too often been met with. Comparatively few cases are recorded of the former accident, and even of these few some have recovered with the formation of an artificial anus, whilst some, again, still more fortunate, have even been ultimately relieved of that distressing malady. The latter accident, however, is, unfortunately, more frequent, and when it does occur invariably proves fatal. For this reason, the author always draws the gut down to examine the constricted portion thoroughly, but always with the greatest gentleness, and he never attempts it until the stricture has been completely freed; and he believes that if the gut were in such a condition that it would rupture or

give way under the degree of force necessary for bringing it into view, it would be equally liable to burst or give way at the point of ulceration, under the degree of force necessary for pushing it back into the abdomen, without the sac being opened, only in the one case the feculent contents would not enter the abdominal cavity, and the patient would not lose all chance of recovery; in the other they would, and the patient would inevitably die.

With respect to the danger of disorganization, from exposure of the contents of herniæ bruised by the taxis: if it were necessary that the hernial contents should be bruised by the taxis, this might be a valid objection against opening the sac, but the contrary is the fact. It is now generally admitted that the taxis should neither be employed for any length of time, nor with any degree of force, and the surgeon who does either the one or the other is certainly guilty of bad practice. With the discontinuance of this injurious proceeding will vanish this objection to the usual operation.

Now as to the situation of the external incision, and the liability of dividing diseased structure, tumour, cysts, parasitic growths, &c., so strenuously urged by Mr. Gay, who says, " the operation may prove fatal by inducing unhealthy processes in the external wound." For the reasons already given, Mr. Hancock prefers the direct incision, as it is decidedly preferable to ascertain the condition of the parts, and be able to see what we are about. With regard to the complications just enumerated, they are of very little importance, being extremely rare; and it is very unlikely, should the complication be diseased structure, whether malignant or otherwise, that it should be confined entirely to the tissues in front of the hernial sac, and not extend to the cellular tissue or structures on ether side: should it, on the other hand, be a tumour, cyst, or parasitic growth, it would certainly be beneficial to the patient to be relieved of such complication, and that such disease or abnormal growth should be allowed to escape, or suppurate away by a direct, rather than by an indirect opening; that the operation should relieve the patient of his strangulated hernia and his abnormal growths at one and the same time, rather than by cutting on one side, relieve the hernia and defer the growths for some future proceedings. It is very true that erysipelas, suppuration, and even gangrene sometimes attack the wound made in the usual operation, and also that some patients labouring under disease of vital organs, have died after operations for the relief of strangulated hernia, but surely it is not meant to be asserted that ossification of the aorta, disease of the brain, erysipelas, suppuration, or gangrene, resulted from the sac having been opened; this result, or mischief, depending, as it must have done, upon some constitutional idiocyncrasy, would have equally followed any wound inflicted on the patient, whether according to Gay's, Luke's, or the usual method. Neither is bleeding into the abdomen necessarily fatal; the author has seen two cases of wounded artery in the operation for femoral hernia. In both, the vessels were carefully secured, and the patients did very well.

Lawrence* relates a case in which the epigastric artery was completely divided without occasioning any hemorrhage during the operation, or previously to the patient's death, as was proved by post-mortem examination; also an instance of femoral hernia, where, after the stricture was divided, the wound immediately filled with arterial blood; the mouth of the vessel could not be distinguished, but the patient fainted and the bleeding ceased. The patient ultimately recovered.

As to the risk of hemorrhage in the operations for hernia he entirely agrees

* On Hernia, p. 271.

with Breschet, who quotes the opinions of Lallemand and Richerand, that the fear of bleeding in these operations had been much exaggerated.

Velpeau* also relates a case, where, in the body of a person who had died from a wound of the abdomen, he found the epigastric artery had been completely divided; there had been comparatively little bleeding, which had ceased spontaneously.

— *Objections to Petit's Operation.*—The author's objections to Petit's operation are, that it is not applicable to all cases, and that consequently the patient is exposed to the danger attending error of selection. In performing operations, it is our duty to select that method which is capable of embracing, as far as may be, all difficulties and modifications which may be met with during such operation, and which it is impossible to ascertain before the operation is commenced; and moreover we ought to select that mode which holds out the greatest certainty of effecting that for which it is undertaken, and of which, in strangulated hernia, we can never be certain, unless the sac be opened. It is of very great importance that we should be able to judge of the condition of the contents of the hernial sac—whether the intestine be healthy, ulcerated, or gangrenous—whether adhesions confine it to any part of the sac; the condition and disposition of the omentum, the number of protrusions, the condition and arrangement of the sac, whether double, single, or otherwise, and the seat of the stricture, are all matters influencing the success of the operation.

It is true that Mr. Gay says, "adhesion of the intestine to the surface of the sac, the possibly gangrenous state of the saccular contents and stricture of the neck of the sac, have been arrayed as objections, but these conditions of the hernial parts cannot be considered as objections to the operation under review, since they belong to a class of cases for which the mode of operation in question was never designed."† But, the author remarks, Mr. Gay does not inform us how we are to distinguish such cases. How is the inexperienced, or even the experienced, surgeon to tell whether adhesions exist between the intestine and the sac, or between the folds of the intestines themselves, unless the sac be opened? How is he to tell with any degree of certainty whether the intestine or omentum be gangrenous, unless he has the opportunity of seeing them? The author admits that in a great proportion of such cases there is a peculiar appearance and odour when we cut through the skin that will frequently guide us, but he has equally met with cases in which, although such appearances and odour were present, the contents of the sac were not at all gangrenous, these signs being due rather to the condition of the coverings, induced by rough handling; and what is of far more importance, he has met with other instances in which these signs were altogether absent, and where, upon opening the sac, the intestine was in a sloughy condition.

Again, if this mode of operation is not intended to apply to cases in which the stricture exists in the neck of the sac, its sphere of action is very limited; and so far from becoming a method of general adoption, it will be found to apply, according to Dupuytren, to merely one case in nine, in inguinal, although in femoral hernia its application is more extensive.

Mr. Key says, "a prominent character of the operation, and one that raises it above many of the objections that have been brought against it, is, that should the attempt to execute it fail, either from want of dexterity on the part of the operator, or from any peculiar difficulty in the case, the operation can be completed in the ordinary way by laying the sac open." This is true,

* Nouv. Elém. de Méd. Opér., vol. ii, p. 471. † Gay on Hernia.

if the difficulties occur during the progress of the operation; but they do not always do so. On the contrary, the operation may proceed, at the time, most satisfactorily; the contents of the sac may appear to slip up with the greatest ease, and yet, from complications which would have been manifest to the surgeon, in the usual method, the patients have remained unrelieved, and been ultimately lost. Were the facts such as stated by Mr. Key, there could not possibly be a doubt of the propriety of adopting Petit's operation in all cases of strangulated hernia. If we were certain that by so acting we did not expose our patients to risks which might be obviated by the usual method, we ought not only to adopt but to enforce this practice; but unfortunately experience proves the fallacy of this doctrine, and of the assertion that neither patient nor surgeon are in a worse position than if the sac had been opened in the first instance, without the attempt to preserve it entire.

It has been urged that the author's objections apply equally to the employment of the taxis as to Key's or Petit's operation, and he admits that, to a certain extent, they do; but there is this wide distinction between the taxis and the operation, that in the case of the former, should the symptoms recur or continue, we feel that we have merely employed a preliminary proceeding, and therefore can at once proceed to operation, and ascertain the cause of mischief. We have here performed only one operation, and the patient sustains the shock and dread of merely one operation; but the case is widely different where we have already operated, and the symptoms still persist. We are led to imagine that we have done all that the case admits of—that the persistent symptoms depend upon the injury sustained by the gut. We treat the patient accordingly; much valuable and, under the circumstances, most invaluable time is lost, and should we at length make up our minds that something more should be tried, we are obliged to recommend a second operation to our unfortunate patient, with the humiliating feeling, that through our selecting the wrong mode of proceeding in the first instance, we have increased his sufferings, whilst we have materially diminished his chances of recovery.

— *Statistics of the two modes of operation.*—The author now passes on to the consideration of the statistics of the two modes of operation, as furnished in a late work on Femoral Hernia, and expresses his dissent from the position assumed by Mr. Key (op. cit.), that notwithstanding "the danger of the operation is by no means the same under all the circumstances attending strangulated hernia; that when the operation is performed early, before untoward symptoms have supervened, it is usually attended with a fair prospect of success. In estimating the risk of an operation, we must not separate the favorable from the unfavorable cases; we should form our judgment upon the nature and the issue of the aggregate cases that present themselves to surgeons in the ordinary course of practice."

In forming an estimate of the relative value of two operations for the same disease, we should base our calculations upon operations performed upon cases as nearly similar as possible, and not confine our operation to favorable cases, employing the other indiscriminately, and then cast up the successful and unsuccessful terminations without reference to collateral circumstances.

In Table 1, contained in the work already alluded to, we find the following analysis of 198 cases, showing, according to the author, the relative amount of mortality attending each mode of proceeding, and Mr. Hancock acknowledges that the proportion of recoveries, according to this table, appears greatly in favour of Petit's operation, being 52 deaths to 73 recoveries, where the sac has been opened, and only 13 deaths to 60 recoveries where it has not.

Whence obtained.	Total cases.	Sac opened.	Recovered.	Died.	Sac not opened.	Recovered.	Died.
Miscellaneous . .	57	48	23	25	9	7	2
Howship	8	6	3	3	2	—	2
Poland, Report of Guy's Hospital	17	12	5	7	5	3	2
Mr. Luke	82	25	17	8	57	50	7
St. George's . . .	34	34	25	9	—	—	—
	198	125	73	52	73	60	13

This table is next analysed by Mr. Hancock as follows. He says:

"I will take the cases of Howship, Poland, Luke, and Hewett (of the miscellaneous I have no means of judging) from the above calculation, and endeavour to show the degree of value which we ought to attach to the statistics advanced. Mr. Howship's operations are eight in number; six in which the sac was opened, two according to Petit's mode, both of which died. Of the six in which the sac was opened, three recovered, three died; one from ossification of the aorta and larger vessels, one from ulceration and bursting of the intestines, and the other evidently from purgatives and tobacco administered.

"Again, take Poland's recorded cases of Guy's Hospital, seventeen in number, of which seven died, the sac having been opened. Of these seven, one had ruptured the intestines in his endeavours to return it before the operation; two had gangrenous intestine; two, gangrenous omentum; one, the parts had so nearly lost vitality that the wound was not closed; while the last proceeded favorably until the third day, when, having had purgatives (enemata and medicine) daily since the operation, violent purging ensued, followed by peritonitis, which, after the patient was leeched, bled, &c., destroyed him.

"The most ardent supporters of Petit's operation will scarcely assert that opening the sac had anything to do with the death of the patients in these cases, particularly when it is remembered that purgatives, medicines, and injections were administered in all, both before and immediately after the operation. And it may be asked, would the condition of these patients have been at all improved had the sac not been opened; and consequently seven, if not the whole, of these cases should be left out of the calculation. Again, with respect to Mr. Luke's cases, which appear so greatly to favour the modern operation. These are given at eighty-two, in twenty-five of which the sac was opened, resulting in seventeen successful and eight unsuccessful terminations; whilst of the remaining fifty-seven in which the sac was not opened, fifty recovered, and only seven died. But Mr. Luke, with his usual candour, throws a very different light on the matter. He says; "Between 1831 and 1841 I have attempted the performance of Petit's operation in eighty-four cases. Of this number, the operation was completed successfully without opening the sac in fifty-nine; in twenty-five it was necessary to open the sac to effect reduction, the opening generally varying from half to three quarters of an inch. With respect to the mortality of the fifty-nine, seven died; of the twenty-five, eight died." He adds, however, "although it may be expedient thus to state in a general summary the results of all cases submitted to Petit's operation, yet, for the purpose of satisfactory comparison, those cases which were selected from numerous others, and which, therefore, may be presumed to yield results more satisfactory, should be excluded, as also should those cases which, from their nature, could not be expected to

be benefited by any operation of any description, or even by the taxis, could it have been successfully performed." For the above reason, he excludes twenty-six cases selected between 1831 and 1841, and also four others, three of which were moribund at the time of the operation, and the other had recovered from the operation, but died six weeks after from ulceration of the bowel; so that, subtracting these thirty cases, fifty-four remain. Of the fifty-four, the sac was opened in twenty-one, of which three died; and not opened in thirty-three, of which two died; so that, considering the class of cases requiring the opening the sac, the rate of mortality does not appear to be so much greater in that mode than where the sac was not opened. I cannot agree with Mr. Luke in considering that "the necessity to open the sac implies neither a greater degree of constriction of the hernial contents, nor a consequently greater severity of the case from organic lesion, than in instances in which no such necessity occurs;" for if there be greater danger in handling the gut itself than through the sac, surely there must be greater danger where constriction is made directly on the gut by the neck of the sac than where such constriction is caused by the tissues around the sac, and so exerts its influence upon the neck of the sac, and through it upon the intestines. And this is borne out by the fact that the mortality was greatest in Luke's cases, in inguinal hernia, where stricture at the neck of the sac most frequently occurs. However, it must be admitted that Mr. Luke has been most successful, fortunate alike in the result of his operations, and in the class of cases submitted to his knife; for few surgeons, if any, can boast like him of having operated upon fifty-four unselected cases of hernia without meeting with a single instance of complication.

"Lastly, take Hewett's cases, thirty-four in number, of which nine died, all having the sac opened. Of these nine there was sloughy intestine, in one instance combined with pneumonia; in one, sloughy omentum; in one, portions of sloughy placenta in the uterus, found after death; in one, disease of the brain; in two, the intestine and omentum were left in the sac, in consequence of adhesions; and in one only was there mere peritonitis, combined with intestine of a dark, mahogany colour, but neither thickened nor softened.

"I need not go further into these details. I trust that I have entered sufficiently into the subject to prove that the mortality, even according to Mr. Gay's statistics, is not due to opening the sac, but to circumstances totally unconnected with the operation.

"We have here the account of 126 cases, in eighty-six of which the sac was opened. After deducting the fifteen which must have proved fatal, whatever operation had been performed, seventy-one fair average cases in which the sac was opened remain. Of these eight terminated fatally, or one in nine, whilst, on the other hand, of the forty in which the sac was not opened, after deducting one in which the aorta was ossified, we have thirty-nine, of which five terminated unsuccessfully, or one in seven and a half."

Through the kindness of Mr. Hamilton and Mr. Puleston, Mr. Hancock has been enabled to obtain the particulars of 548 cases of strangulated hernia, collected from various sources. Of these the sac was opened in 474, the operation proving successful in 307, unsuccessful in 167. In three, the gut was injured in dividing adhesions; sixty-one proved fatal without any complications, and of the remaining 103, in thirty-three, the gut was gangrenous; in thirteen it was gangrenous, and had burst; in thirteen, the gut was perforated by ulceration; in one, the patient had burst the intestine in his endeavours to return it before the operation; in six, the intestine was adherent to the internal ring; in seven, adherent to the sac; in eight, gangrenous omentum; in seven, adventitious bands and adhesions together; in two, double sacs; in

two, sacs contained pus; in one, the colon was twisted, and could not be returned; in one, Petit's operation was first tried and failed; in one, patient delirious, in *articulo mortis;* in one, sloughing placenta found in the uterus after death; in one, disease of the brain; in one, ossification of the aorta; in one, encysted hernia of tunica vaginalis, unrelieved; in one, pneumonia, after twenty-three days; in one, constricted intestine at point of stricture; the rectum severely ulcerated from very hot enemata; in one, patient had been operated upon three times, and, in another, the patient had taken several doses of croton oil, turpentine, &c., before the operation; immediately the gut was liberated, the bowels began to act, and continued to do so, almost without intermission, until she died, twelve hours after.

It should be stated, that the condition of parts here given was in almost every instance found at the time of operation, and not merely observed after death; it must consequently be admitted that the above 103 cases would have equally terminated fatally had Petit's operation been performed, consequently the number should be calculated at 307 successful, sixty-four unsuccessful, or one in six.

On the other hand, the sac was not opened in seventy-four. In five, it failed under circumstances which would have equally influenced any operation. The author consequently leaves those out, and takes unsuccessful cases, in one of which the gut was wounded at seventeen, leaving fifty-two successful cases, or one in four.

10. *Annular Stricture of the Rectum.*—We extract the following essay on this disease from the 'London Journal of Medicine:'

Several communications have lately appeared in the 'Gazette des Hôpitaux,' containing some valuable observations made by M. Robert, of the Hôpital Beaujon, on circular stricture of the rectum. The Number for 19th June 1849, contains the following summary:—

Seat of the stricture.—A remarkable circumstance is, that the seat of the stricture is almost always the same; viz. about six or eight millimètres from the anus. M. Rohert has naturally endeavoured to discover the cause of this uniformity, but as yet without success. Houston has described a valvular structure at this part, which bears his name, and which he supposes to be the primitive seat of the disease; but this valve has been several times sought for in vain. However, in a woman who died of chronic diarrhœa, M. Robert discovered, at the point indicated by Houston, a sort of blackish, inflated *valvula connivens*, which, if it existed in a large proportion of subjects, might be considered as the special seat of the strictures to which he refers. This is a subject for further investigation.

Causes.—One case only of the annular strictures which M. Robert has had to treat, occurred in a male. The female sex, therefore, appears to have a marked predisposition to this affection. The exciting causes it is not so easy to determine.

In some cases, labour, whether difficult or not, has appeared to be the starting-point of the stricture: at least, the first symptoms have appeared after delivery. In other cases, a chronic dysentery has preceded the organic lesion, and has continued after its formation. Inquiry has naturally been directed to discover whether the patients have been at any time affected with those venereal symptoms which are called *antiphysical*, but more properly *antiphysiological;* M. Robert professes himself able to arrive at only a negative conclusion on this point. But the assertions of patients on this subject are so rarely in accordance with truth, that doubt must necessarily be entertained on the influence of such a cause.

Diagnosis.—When the stricture is not very strongly marked, the diagnosis can present no serious difficulty. The finger can always, with more or less ease, be brought to reach the stricture, and allows it to be easily discovered, when the anatomical change consists in a circular band, a few millimètres in thickness, above which the intestine is found of its normal structure and consistence. When exploration by the finger is followed by examination with a bi- or tri-valved speculum, there is seen a diaphragmatic ring, red, equally granular, commonly of a fibrous consistence. Sometimes this ring presents some superficial ulcerations, which never have a bad appearance. It may also be of a more delicate structure; and, in such a case, has been torn by the speculum. In no case, except when an abscess already exists in the cellular tissue of the pelvis, surrounding the rectum, is the stricture closely united with the neighbouring structures; they can be felt by the finger to be supple, and to permit the strictured and indurated part to be moved. These symptoms are quite sufficient to aid us in distinguishing this form of stricture, both from those which have their seat without the rectum, and from those which have arisen in the intestine itself.

Complications.—These are rather common, and form a powerful obstacle to treatment. Sometimes they have existed before the stricture, and are generally then most serious; sometimes they occur subsequently, and are removed with it. Among the latter are rectal hemorrhages, which M. Robert has sometimes observed, but which he has never seen to assume an alarming character. Suppurative inflammation may occur, and give rise to abundant suppuration; but this accident is not very terrible; it can only occur in old cases, where there are such slender hopes of cure as have not yet been presented. A much more troublesome complication is fistulæ, which may exist above the stricture, between the rectum and the vagina, or between the rectum and the cutaneous surface. These fistulæ scarcely oppose the cure of the stricture, but persist some time after it, with a severity which is peculiar to them. In one case of stricture, there was observed at the same time an alteration in the structure of the sacrum. In a case (a male) observed by M. Robert, the rectum was perforated above the stricture, and a stercoral abscess formed, which traversed the sciatic notch, and opened in the popliteal space. But such cases are rarely the result of stricture; they most commonly precede it, and it is rather the structure itself which forms the complication.

Prognosis.—When annular stricture is properly treated at an early period, there is no serious danger. But when it is left to itself for a considerable time, its severity is considerable, and it very often even ends in death.

Treatment.—Several means have been proposed for the treatment of stricture of the rectum, but without sufficiently distinguishing one kind from another. In the form under consideration, M. Robert prefers destructive cauterization to all other remedies. He says that dilatation, which is generally employed, is insufficient, and not unattended with inflammation. He has seen a case, in the practice of M. Breschet, in which it caused violent inflammation, which rapidly extended to the peritoneum, and produced death. On other occasions, dilatation has produced hemorrhages, which, without being very severe, have been distressing to the patient, and have produced a very inconvenient degree of weakness. The treatment by means of a cutting instrument is much more dangerous, and does not always produce the expected effects. For these reasons, M. Robert prefers destructive cauterization, with Vienna paste; and his observations tend to prove the success and harmlessness of this treatment.*

* London Journal of Medicine, Sept. 1849.

§ IV.—*Injuries and Diseases of the Urino-Genital System.*

11. *The Seat of Stricture in the Urethra.*—Mr. Henry Smith brought this subject to the notice of the Westminster Medical Society in May last, and also made some remarks on the treatment to be employed in some forms of that disease. He stated, that it was a generally entertained notion amongst the profession, that permanent stricture of the urethra was most frequently seated in the membranous portion of the canal; but he had been led to believe that this was by no means the case; and in order to come to some correct conclusion on the point, he had undertaken the careful examination of a considerable number of morbid specimens of this disease which were preserved in the Museum of the College of Surgeons, and others in this metropolis. Of ninety-eight specimens of stricture, he had found that the disease was seated in the membranous part of the urethra only in twenty-one instances; whilst in seventy-seven the stricture was found to be in front of the triangular ligament; and in the majority of these the obstruction was seated either in the substance of the bulbous portion of the canal, or a little way in front of it. An excellent anatomist (Mr. Hallet) had examined the greater number of these specimens with the author, and had agreed with him in the seat of the disease. The author made several quotations from the works of those who had written upon this disease, and showed that the opinion of the majority was, that stricture was most frequently met with in the membranous portion of the urethra; but he found that two of the greatest authorities supported Mr. Smith's opinion, that stricture was most frequent in the bulb, or just in front of it, and they were John Hunter and Sir Astley Cooper, both of whom state that they have met with stricture chiefly in front of the triangular ligament. The author next makes some remarks on the causes of stricture. He considered the opinion that injections caused it, to be erroneous, and that, when used of proper strength, instead of producing stricture, they rather had a tendency to prevent it. With regard to treatment, he believed that some cases of stricture were rendered more obstinate of cure in consequence of the too frequent introduction of instruments; and that, in those cases of irritable and bleeding strictures, the surgeon should be particularly careful in not using too much force, and not introducing the instrument too frequently. He instanced two cases under his own care, in which most profuse and alarming hemorrhage ensued, and where he thought he had not been so cautious as he should have been. Surgeons were somewhat divided in opinion respecting the mode of proceeding in those cases where it was absolutely necessary to divide the stricture with a cutting instrument. There were two plans of doing so—namely, introducing a concealed blade, and dividing the stricture from within; and the other consisted in laying the urethra open from without, through the perineum. He considered that the latter mode was far superior in every respect to the other, as the surgeon could see what he was about, whilst in the former method he was working in the dark, and liable to cause great mischief. When the obstruction was not far from the orifice, this instrument might be used with safety and advantage, but when it was met with at the bend of the urethra, it is far better to cut through the perineum. It was a difficult operation certainly, and it required some skill and courage on the part of the surgeon. If properly done, the benefits obtained by it were most satisfactory. Several cases had lately come under his observation, where Mr. Fergusson had operated in this manner, and the relief obtained by the

patients was extraordinary. He had never seen any fatal case, or any bad results, from this procceding.*

12. *On the Section of Stricture by the Perineum.*—In the 'Medical Times' of September 15th, we find the following communication from Mr. Smith on this method of treatment, which was slightly alluded to by him in his remarks on the seat of stricture, which we have just referred to:—

In the following observations which I shall have to make, I do not pretend to bring forward anything new, or to propose a remedy which has not been hitherto employed for the cure of certain forms of stricture and its complications; at the same time, it is my wish to call attention to an operation, respecting which there is at present much difference of opinion, and I may also say, great misapprehension.

I am fully aware, that the method of treating impermeable strictures of the urethra by the perineal section is resorted to by some surgeons, both in this metropolis and in the provinces; yet, from consulting the works of those who have written upon stricture, and conversing with my professional brethren, I am led to believe, that the advantages accruing from this proceeding are not generally known; that its difficulties and dangers are much overrated; consequently, that other measures of treatment are not unfrequently resorted to, which certainly have the semblance of safety and efficacy, but are more tardy and less decisive; therefore, in such cases which really require the quick and bold interference of the surgeon, more dangerous. It must be confessed that it is much more satisfactory, and it redounds more to the credit of the surgeon, if, by the patient and skilful employment of the catheter, he can overcome and treat with success an apparently insuperable stricture, than if, by a well-adapted cutting operation, he may bring about the same result; and there is little doubt that the majority of the most severe forms of stricture may be thus successfully cured; so far is this true, indeed, that one, judging hastily, would naturally express wonder on reading the various works which have been written on the subject, and seeing the ingenious instruments which have been devised by surgeons—French, English, and American—for cutting through strictures of the urethra. But that surgeon who has seen this disease on an extensive scale, and particularly in that large class of poor, neglectful, and neglected people, who are the inmates of and the attendants upon our large hospitals and dispensaries, will be obliged to confess that, every now and then, he meets with instances in which his ordinary resources will fail him, and where he will be obliged to lay aside the catheter for a more formidable instrument, and call into action his greatest self-command, skill, and ingenuity.

It is true, that one of the greatest surgeons that ever adorned the profession in this country, and who has only lately departed from amongst us, used to make a boast that he was never foiled with the catheter in the worst stricture, and that he considered all other measures but the use of the catheter as barbarous; yet, granting this, it is no reason why the use of the catheter should always be the least dangerous or the least barbarous mode of practice; for we know that by force an obstruction may always be overcome in some way or other with this instrument, and that it may be pushed anywhere; but the mere getting a passage through such obstruction, or into the bladder, does not necessarily constitute either a successful or safe practice. There can be no doubt that cases are constantly occurring where a surgeon may overcome an apparently insuperable obstruction by the catheter alone, and, as he thinks, with success; but, unfortunately, a post-mortem examination will show him

* Reported in Medical Gazette.

that it would have been better for his patient had he resorted to a different mode of proceeding, although it may have *appeared* more dangerous and cruel.

It should be recollected that Mayern, the surgeon of Henry IV of France, finding all other means fail, forcibly perforated a stricture, on the person of his illustrious master, with complete success; nevertheless, this bold surgeon was considered worthy of censure by the Faculty of Medicine of Paris, "propter temeritatem et ignorantiam."

The operation of opening the urethra from the perineum is applicable to various conditions of disease of that canal; but it ought not to be undertaken until all other measures have been tried which are free from the difficulties and dangers which surround this proceeding; for although these are much overrated, yet they are not to be thought lightly of, and it may be well just to take a glance at them. In the first place, let us call to mind what is the condition of the parts we have to operate upon, and how far different they are from their normal condition. Usually, it is only in those instances where no instrument can be passed into the bladder that the surgeon employs this proceeding; and what obtains here? The continuity of the canal is destroyed, a portion of the urethra is one firm mass; in fact, a mere fibro-cartilaginous degeneration; the soft parts around are completely changed in their texture, indurated and thickened from the continual irritation of the urine which has deviated from its natural course, and made other and more convenient passages for itself. In such a state of things, it is difficult to discover the continuity of the urethra; and unless the surgeon possesses patience and skill, he may carry his knife anywhere but in the right direction, and serious and even fatal mischief may be produced.

This, however, is the dark side of the picture; for the beneficial results of this proceeding when properly employed are incalculable, and every surgeon who has watched half a dozen cases will admit it. As far as my own limited observations have led me to judge, there are few operations which, when judiciously put in force, give such striking relief, both temporary and permanent, as the one under notice. I have seen the timely performance of this operation snatch the patient from the most dangerous condition, when other measures have been of no use. I have also seen those who have suffered for years, and have been brought into a wretched condition from the existence of impermeable stricture and its consequences, rendered strong and happy people in a few weeks after it has been put in force; and, moreover, I have seen in more than one instance the fatal effects of neglecting this measure.

There are three forms of disease in which this operation will be found to be necessary. The first and most common is where stricture of the entire substance of a portion of the urethra exists, has existed for perhaps ten, fifteen, or twenty years; has been neglected until at last no instrument can be got through, unless by forcing; and in consequence of which, ulceration has taken place behind the diseased part, and confirmed perineal fistulæ have been formed. In this state, the patient is brought into a wretched condition; he suffers excruciating pain whenever he attempts to pass any urine, which only comes away in a few drops by the natural passage, or perhaps entirely passes away through the false openings in the perineum and scrotum. He is in a constant state of filth and annoyance from the dribbling of the water, and ultimately his frame becomes shattered by the continual irritation which it is sustaining night and day. This picture is not overdrawn; any one who has paid much attention to this class of disorders will recognise it.

If the patient applies in time, and even the smallest instrument can be passed, a cure may be brought about, after a shorter or longer period, without the employment of the knife, except so far as to lay open the fistulous openings; but where no instrument can be insinuated through the obstruction, the

mere division of the sinuses will be of no use; the cause still remains untouched, and the patieut's condition becomes daily worse, until he is glad to resort to any measure for relief. The following quotation from the celebrated Le Dran gives a much better pieture of such a case than any description of my own can give. "Let us suppose now, that the urethra is become so callous and contorted, that it is absolutely impossible to introduce a bougie. In this case, very little urine passes through the penis, and the callosities and fistulæ are numerous. I have sometimes seen the scrotum so loaded with callosities, that, together with the perineum, it appeared but one lump of them intermixed with fistulous holes. The more callosities there are, the more the passage of the urine is obstructed, and the paticnt, probably, will soon die under such circumstances;" then he goes on to say, "The means of removing this disorder is by one or more operations;" after which he describes a case in which he operated with succcss.

The results of the proceeding in such a case as this are extremely gratifying, if due care be taken to secure proper attention to the after-treatment. The immediate relief is striking; in consequence of a direct opening being made, the urine comes readily away, and the patient is freed, almost at once, from the miserable symptoms he has been labouring under; in a short time, his health improves, the wound gradually heals, and the urethral canal is perfectly re-established.

We sometimes meet with cases of stricture of long standing, and which have become impassable to any instrument, where, instead of ulceration of the urethra, and infiltration of urine occurring gradually, a more snddeu and more dangerous condition obtains — no fistula, no abscesses have existed before, but the canal behind the stricture gives way; infiltration takes place, abscess forms, and the patient is placed in great danger from the constitutional symptoms. I am not here speaking of those cases where the whole of the scrotum and inguino-lumbar rcgions become involved, and where rapid disorganization occurs; but where the accident is more limited, and the suppuration more circumscribed; yet serious consequences will ensue if proper treatment is not quickly applied. In such an instance, a free incision being made in the perineum, to permit the exit of urine and pus, will give relief, but only for a time; for the stricture being impermeable, the urine will come away into the perineum, and fresh inflammation and suppuration be excited within a short period. The only treatment which will be quickly and efficiently productive of relief consists in cutting through the stricture; by this means a twofold object is gained, the present mischief is relieved, and the origin of it also removed.

There is yet another condition of the disease, in which this operation may bring about the very best rcsults. It is generally recommended, and very properly too, that a cutting instrument should only be employed in those cases of stricture where there is an impossibility of passing any instrument through without force. However, this advice should be taken with some reservation; for there are certain cases every now and then to be met with where a small catheter can be introduced; but at the same time, from the circumstance of the entire calibre of a portion of the urethra being affected—a condition of things which Cruveilhier deems incurable, conjoined with an excess of irritability of the parts, no dilatation can be effected. In such an instance a dreadful amount of suffering is undergone by the patient, and this is by no means lessened by the useless attcmpts of the surgeon to dilate the stricture; the consequence is, that he gets frightened, neglects himself, and all the bad effects of his disease one by one ensue, chronic inflammation of the bladder, abscess, perineal fistulæ, and general constitutional disturbance, which reduces him to a pitiable state.

If the surgeon attempts to pass an instrument, it cannot be borne; and should he reach the stricture, no dilatation beyond a certain point can be effected; and the question is, what can be done to relieve the patient and bring about a cure.

The most satisfactory and least dangerous method to pursue, is to put the patient under chloroform, open up any sinuses that may be found in the perineum, introduce as large a catheter as will enter without force, and there leave it for several days, if it can be borne; a great amount of benefit is to be excited, the irritability will be overcome, and the stricture be materially lessened by the constant pressure of the instrument; and if great care be taken to prevent any urine from coming through the perineum, all fistulous openings will heal up. One or two striking instances of the practicability and benefit of this mode of treatment have been under my observation very lately.

In some cases of this kind, however, it will be found, that, even if a catheter be introduced, its presence creates such an amount of irritation that it cannot be endured; moreover, the excessive sensitiveness of the parts, whenever any attempt is made to pass an instrument, combined with an undilatability of the stricture, renders it necessary to resort to some other measure to relieve the dreadful sufferings the patient generally undergoes. The nitrate of silver or potassa fusa may be used, in some instances, with safety and success, if the stricture is only of limited extent; if, however, the obstruction involves any considerable length of the canal, and the parts around are much indurated, cutting through it by the perineum will be found a most effectual and permanent remedy.

It is not my intention to enter into a discussion respecting the different merits and advantages of this operation and that of operating with the lancetted stilette. Neither is it my wish to decry this latter proceeding, which is, doubtless, of great service in those unyielding cases of stricture which are met with in the spongy portion of the canal. I have related the preceding cases merely to show with what success this operation may be resorted to when well timed and carefully conducted.

I need not describe the particular stages of the proceeding, for I presume that all my readers, if they have had no experience of it, are sufficiently acquainted with the directions laid down in surgical works.

The after-treatment is very important, for much of the eventual success of the operation depends upon the manner in which it may be followed up. A case which may promise to do well at first will turn out badly, if great care be not taken in attending to this part of the treatment. It should be recollected that the canal has been laid open to some extent, and that the re-formation of this canal is absolutely necessary for a perfect cure. In order to effect this, as large a catheter as can be introduced at the time of the operation is fixed in the urethra, and there kept as long as the patient can bear it. In this time the parts will have made a rapid progress towards the healing up of the divided urethra; and the fistulous tracts which may have been opened will gradually contract. But for a speedy accomplishment of this beneficial result, it is necessary that the instrument should not be disturbed for several days; and that as little urine as possible should escape by the perineum. I am aware that some surgeons consider that the urethra will become too irritable to retain the catheter so long. And if they find that much pain is caused by its introduction, they will delay using it, and the consequence will be that the canal will again contract, and the operation will of necessity have to be repeated.

But in the majority of cases there need be no fear about retaining the

catheter for five, six, or seven days; it is surprising for how long a time even the most irritable urethra can bear it, if the patient will only have the fortitude to suffer the inconvenience for the first few hours. I lately saw an instance where there were perineal fistulæ dependent upon the most irritable condition of the urethra I almost ever witnessed. It was necessary to lay the parts freely open and keep a catheter in the urethra; at first the patient suffered terribly, begged and implored us to take the instrument out; but this suffering ceased, and he retained it for a week with great benefit. In another case of an old gentleman, with inflamed prostate glaud and most irritable bladder, I introduced a catheter and did not take it out until the sixth day, and then it caused not the slightest inconvenience. Some time ago I was in attendance with an older and more experienced surgeon, upon a case where it was necessary to open the urethra; the catheter was retained for five or six days, and the patient went on admirably; but it was considered that it was irritating him too much, and it was removed, quite contrary to my own wish. The urine no longer found a free passage; irritative fever, of the worst description, set in, and the patient, to my great regret, died before many days.

A gum-elastic catheter should always be used for the first week or two; it should be every now and then changed, until the parts have lost their irritability, and then a silver instrument may be employed until the urethra is fully dilated, and all external openings have closed up. The general health will require continual attending to, and the condition of the urine must be watched and corrected by suitable measures. It will also be necessary, in order to ensure permanent and perfect success, to pass an instrument occasionally through the urethra, as there is always a tendency to contract.

In conclusion, it may be stated, that the difficulties and dangers of this operation are not so great as they are asserted to be by some. It is true that this proceeding, like all other equally severe measures, may be followed by unsatisfactory and even fatal results; but I can hardly understand the possibility of three or four successive cases being lost from hemorrhage, as I have been told was the case in one of our hospitals not long ago. A well-known surgeon, during conversation with me on this subject, stated that the hemorrhage from this operation was fearful, and made this the cause of objection to it; but I suspect that his experience of this proceeding must be limited chiefly to something he has read of it, or something ideal he has heard from others; for, out of the many cases which have fallen under my own observation, and which I have assiduously watched, no hemorrhage to cause the least alarm has occurred, and hardly a bad symptom has shown itself subsequent to the operation. In one instance, death ensued several weeks afterwards; but here the patient, from neglect on his part, and from previous insufficient treatment, got serious disease of his bladder, from which he sank, he having obtained great temporary relief from the division of an old stricture, which had existed for many years.

13. *Spermatozoa in the Fluid of Hydrocele.*—In the Monthly Journal for September there are some excellent observations on this subject by Mr. Curling. In May 1843 the late Mr. Liston announced to the Royal Medical and Chirurgical Society of London, a discovery of considerable interest, in connexion with encysted hydrocele of the testicle, namely, the occurrence of spermatozoa in the fluid contents of the cyst. They had been also observed, about the same time, by Mr. Lloyd, of St. Bartholomew's Hospital, who communicated to the Society the results of his observations in June of the same year. The circumstances under which these bodies occur in so singular a

situation have not yet, however, been satisfactorily made out; and the subject is one which requires further investigation.

During the last six years Mr. Curling states that he has met with spermatozoa in as many as twenty cases of encysted hydrocele; indeed, in the greater number of instances in which he has searched for them. They were found at various ages, from 30 to 75, and in cysts of all sizes, from that of a filbert to the largest which this form of hydrocele attains. The fluid, in some instances, contained these bodies in remarkable abundance; in others they existed sparingly. When very numerous they gave to the fluid an opaline opacity, or an appearance resembling cocoa-nut milk, which is so characteristic, as to enable the surgeon to predicate their presence from the appearance of the fluid alone, without minute examination. If the fluid be allowed to remain at rest in a glass vessel, the spermatozoa subside to the bottom, rendering the lower portion more opaque than the upper. The fluid also exhibits slight traces of albumen when tested in the usual way, which is not the case with the ordinary pellucid, colourless fluid of encysted hydrocele. The spermatozoa were often as lively as in fresh semen. They were observed more frequently in the larger cysts than in the smaller. Mr. Curling once found them in fluids removed from two distinct cysts attached to the epididymis of a man about 60 years of age; and he has detected them in the fluid from encysted hydroceles tapped for the first time, and also in the examination of small cysts connected with testicles removed after death. He removed from an old man, æt. 75, who had encysted hydrocele for eight years, that had never been tapped before, as much as thirty-two ounces of fluid, which contained abundance of spermatozoa. They were also detected in fluid taken from a man aged 54, who stated that the tumour had existed for eight years, and had never been operated on.

Various opinions have been broached to account for the existence of spermatozoa in the encysted form of hydrocele of the testicle; but before alluding to them, the author briefly describes the structure of these accidental cysts, the mode in which they are formed, and their relation to the excretory part of the testicle. The cyst is composed of a thin, delicate serous membrane, lined with a tessellated epithelium, and is developed beneath the visceral portion of the tunica vaginalis investing the epididymis. Small cysts not larger than a pea, and even smaller, may frequently be found beneath the serous membrane covering the head of the epididymis, in which they produce a slight depression. He has seen as many as five and six perfectly distinct cysts connected with this part. Sometimes one or two small cysts are so imbedded in the substance of the epididymis that they cannot be recognised without dissection. They sometimes project the tunica vaginalis before them until they become so far separated from the epididymis, where they were originally developed, as to be attached only by a narrow peduncle, formed by a contraction of the connecting tunica vaginalis. Such is the mode of development of those small pendulous pedunculated cysts, containing a limpid fluid, often found hanging from the head of the epididymis. They never acquire a large size, seldom exceeding that of a currant. From their exposed situation they are liable to be ruptured, leaving vestiges consisting of fimbriated folds of membrane. So common are small cysts connected with the epididymis in the various states and stages described, that it is impossible to examine many testicles, especially of persons beyond the age of puberty, without finding them. According to M. Gosselin, they are liable to be developed from the period of puberty to the age of 30 or 35, but are rare at this period. After the age of 40 they are very common, having been met with by him in at least two thirds of the testicles examined. Now, when one or

more of these cysts, instead of becoming pedunculated, enlarge so as to form a tumour in the scrotum, they constitute the encysted form of hydrocele of the testicle. He has observed this description of hydrocele in all its various modifications, from the enlargement simply of a single cyst to the complication occasioned by the varied development of several. As a cyst enlarges, the testicle becomes displaced, and the epididymis flattened. The outer surface of the cyst is in close contact with the ducts of the epididymis, areolar tissue only intervening.

Mr. Liston suspected that the presence of spermatozoa in encysted hydrocele might be explained by the circumstance that the cyst was formed by dilatation of a seminiferous tube. This view, however, the author thinks, is obviously erroneous, for it has been shown that the cyst is quite distinct and completely separated from the ducts, though in close proximity to them. Others have supposed that these bodies were accidently introduced, owing to a wound of an adjoining duct in the operation of tapping; but this is disproved by their having been observed, as already stated, in cysts when tapped for the first time, and in cysts which have never been opened until after death. It has occurred to some that the spermatozoa having been formed in the ducts of the testicle, had afterwards penetrated the walls and entered the cyst by transudation, or a sort of exosmose; but this is an hypothesis open to so many and such obvious objections, that it can scarcely be said to have met with supporters. Mr. Paget suggests, as the most probable explanation, "that certain cysts, seated near the organ, which naturally secretes the material for semen, may possess a power of secreting a similar fluid."* Physiology does not warrant this supposition. The secreting tissue of the cyst is admitted to be different from that of the seminal duct. Now, we have no evidence that one texture can fully perform the office of another of different structure; yet the spermatozoa commonly found in these cysts are as perfect and as well developed as any taken from the vas deferens and vesiculæ seminales. M. Gosselin supposes that the presence of spermatozoa may be accounted for by a rupture of some of the seminiferous tubes, or efferent ducts—a rupture, perhaps, consequent on those obliterations of the tubes in the head of the epididymis, which he has particularly described. The sperm having escaped from its natural passages, an accidental cyst gradually surrounds it, forming the cyst which furnishes a fluid in addition to its primitive contents; in the meanwhile the ruptured duct or ducts, compressed by the development of the tumour, become obliterated so as to leave no trace of the original alteration.† That this theory is untenable the author shows—first, by the fact admitted by M. Gosselin himself, that minute cysts containing spermatozoa have scarcely ever been observed; whereas, if his view of their origin were well founded, we should, without doubt, occasionally find cysts containing these bodies in the early stage as well as in the advanced. Secondly, it may be objected, that after removing the fluid from one of these cysts by operation, that fresh secreted is often found to contain spermatozoa, in some instances as numerous as before, which could not happen if an obliteration of the ruptured duct had taken place, as M. Gosselin supposes, and, as we may infer, would be the case had an accidental cyst been formed around an extravasated fluid.

The explanation which seems the most reasonable and probable to the author, is that which he offered shortly after the occurrence of spermatozoa in encysted hydroceles was first discovered,‡ viz. that their presence is probably owing to the accidental rupture of a seminal canal, and the escape of

* Medico-Chirurgical Transactions, vol. xxvii, p. 401.

† Archives Générales de Médecine, 4 série, t. xvi, p. 178.

‡ Practical Treatise on Diseases of the Testis. Appendix, p. 541.

its contents into the cyst of an existing hydrocele. The close proximity of the efferent tubes, the slight texture of the ducts and delicate walls of the cyst, and the liability of the part to contusion and injury when a swelling, even of moderate size, exists, seemed to me to favour this view. The circumstance that spermatozoa are never found in very small cysts, show that they are not originally formed there, but are a subsequent addition to their contents. Since his attention has been drawn to this subject, he has investigated the history of the cases of encysted hydrocele containing spermatozoa which came under his notice. In nearly all instances the patients assured him that the swelling had gradually formed after an injury to the testicle; and in two cases it was clear that a small cystic swelling had long existed in a stationary state, but after a slight blow had begun to enlarge. Mr. Curling strongly suspects that in these cases a duct had been ruptured by the contusion, and that the irritation consequent on the injury, and perhaps on the addition of such lively bodies as spermatozoa to the fluid contents of the cyst, had led to its further development. He has, however, failed in establishing the fact of a communication between the duct and the cyst by anatomical examination. In two instances of large encysted hydrocele containing spermatozoa, which he had an opportunity of examining, he injected the vas deferens with coloured size, but the duct was so clogged with semen that the fluid could not be made to reach the head of the epididymis, to which the cyst was attached. In a preparation of large encysted bi-locular hydrocele containing spermatozoa, shown him by Mr. Bush, of the Dreadnought Hospital, the vas deferens had been injected with mercury, but none of the metal reached the upper part of the epididymis. The cyst evidently arose from the head of the epididymis, and was imbedded a little in its substance. In these cases, no opening communicating with a duct could be discovered on examination of the cyst; but this is not surprising, since the communication must be extremely minute, so as readily to escape detection, or it may even have been obliterated.

Spermatozoa are stated to have been found in some two or three instances, in fluid removed from the tunica vaginalis. It is not improbable that these cases may have been encysted hydrocele mistaken for simple. The diagnosis is sometimes very difficult, and in the cases of the cyst examined by Mr. Paget, this error was made before death by an hospital surgeon. Mr. Curling has, however, found spermatozoa in the sac of the tunica vaginalis, and the following case will account for their presence:—

"A man, æt. 54, died in the London Hospital of disease of the kidneys, of one of the ureters, and of the bladder, which appeared to be consequent on a severe blow on the loins, about six weeks before. The tunica vaginalis of one of the testicles contained two ounces and a half of slightly opaque fluid, in which a few spermatozoa were found. There were three small cysts containing fluid immediately connected with the epididymis, and also at one spot an irregular, ragged, membranous appearance, evidently caused by the rupture of a cyst. It is most probable that the spermatozoa had escaped from this cyst, which may indeed have been burst at the time of the injury."

He has examined the fluid from the tunica vaginalis in a large number of instances, without finding these bodies, and believes their occurrence in the common form of hydrocele to be extremely rare.

The presence of spermatozoa in hydrocele is entirely of pathological interest, as it does not influence the results of treatment.

14. *Treatment of Hydrocele.*—Dr. Marsh, of Albany, describes what he believes to be a prompt mode of effecting a radical cure of hydrocele. His operation consists in using a large-sized trocar and canula, through which, after evacuating the fluid, he introduces a camel's hair brush dipped in a solu-

tion of the iodide of potassium, and so brushes over the whole surface of the tunica vaginalis.

Dr. Horner, in addition to injecting the tunica vaginalis, introduces a few threads from top to bottom through the cavity, by which he considers that he ensures a more certain secretion of lymph and less of serum.*

15. *Statistics of Gonorrhœa and Syphilis in the Female.*—Mr. Fenwick brought some interesting facts to light in a paper on this subject, which he read to the Newcastle and Gateshead Pathological Society.†

The total number of females whose cases have been subjected to numerical analysis is 943. Of these, there were 252 cases of simple gonorrhœa; in 170, sores existed along with gonorrhœa; and in 521 there were sores alone. Although the information to be derived is necessarily very limited, yet there appear some points worthy of attention.

Simple gonorrhœa.—Of the 252 cases of gonorrhœa, 188 were treated without mercury; the remedies employed being usually cubebs, copaiba, and astringent injections. To the remaining 64, mercury was exhibited on account of secondary syphilitic symptoms, or for some other disease existing at the same time as the discharge from the vagina. In those treated without mercury, the average time required for their cure was 32·91 days; whilst in those that took mercury, although affected at the same time with other complaints, the average period of treatment was only 30·23 days. As it is, however, a generally-received opinion, that the exhibition of mercury does not facilitate the cure of gonorrhœa, it is necessary that we should examine more minutely the cases we have just quoted. Table I shows the periods in which the numbers of each class of cases recovered, and should be read in the following manner:—

There are 31·5 chances to 1 against the recovery of a female treated for simple gonorrhœa without mercury during the first week; if she be not cured in the first week; there are 5·3 chances to 1 against her recovery during the second week; if she remain uncured to the third week, there are 1·9 chances to 1 against her recovery during the third week.

The greater chance of recovery during the first two weeks of those treated without mercury may be explained either on the supposition that the exhibition of that medicine actually retards the recovery of those affected with gonorrhœa, or that the other disease for which it was given, protracted the stay of the patients in the hospital; the latter supposition is obviously the more probable.

But although those treated without mercury have had a greater chance of recovery during the first two weeks, yet a greater number of those whose stay was protracted to the third week, recovered in the third week after taking that medicine, than those whose diseases were cured without it. It may be also observed, that whereas of the 65 mercurialized, only 1 case remained in the hospital after eleven weeks; of the 188 treated without mercury, 8 were dismissed after that time. The chances are therefore 64 to 1 that any case of simple gonorrhœa in the female, treated with mercury, will not be cured within eleven weeks after the commencement of treatment; whilst the probabilities in favour of recovery within the same time are only 22 to 1 in those who have not taken mercury. The cause of this difference is not difficult of explanation. In most cases of long-standing gonorrhœa, we find that the persistence of the symptoms depends not merely on chronic inflammation of the vagina, but upon structural changes in the womb, and in the submucous tissues.

The author states that cases continually present themselves to his notice of

* Transactions of American Medical Association.

† Med. Gazette, April 27, 1849.

enlargement, or ulceration of the neck of the uterus, and of prolapsus of the vaginal coats, the origin of which is referred to gonorrhœa. He has, therefore, no doubt that the mercury has prevented, amongst those who took it, the tedious cases we observe in the list of those treated in the ordinary manner, by saving the womb and submucous tissues of the vagina from the structural changes he has mentioned; although he believes the exhibition of mercury will usually prevent such diseases, yet he has not been in the habit of treating them with it. The treatment he has found most efficacious in a thickened condition of the neck of the womb, whether resulting from gonorrhœa or not, is a very strong ethereal solution of iodine applied to the part by a sponge. This application was first recommended to him by Dr. Dawson, of Newcastle, who has been for some time in the habit of employing it.

With respect to gonorrhœa in the male, the author records a large number of cases treated in different ways, in order to compare the power of different remedies over the complaint in the latter stages. He has not yet analysed these cases numerically, but the impression upon his mind is, that nitrate of silver is by far the most useful application for the cure of a long-standing discharge.

He has been disappointed in the effects of ointments, and usually now employs a strong injection of the salt. In one case, in which almost every other plan of treatment was put in force ineffectually, the patient was cured by touching the urethra in different parts with a piece of solid caustic passed down it through a catheter.

Syphilis.—There were 521 cases of sores, uncomplicated with discharges, of which 235 were treated with mercury, and 286 without it. Those who took mercury were seldom subjected to what is termed "long courses" of the drug, but the usual practice was to affect the gums, and for a week or two afterwards to keep up a gentle soreness by the exhibition of a smaller dose. Those who took no mercury were not selected cases, as for many years the general method of treating the disease was solely by astringent and stimulating lotions, with the occasional internal exhibition of sarsaparilla. It is evident that a considerable saving is effected in the time necessary to cure a venereal sore by the exhibition of mercury, for in those to whom that medicine was exhibited, the cure was, on an average, effected in 30·13 days, whilst in the other class 38·35 days were required. If we examine the chances of cure in these two classes during the first few weeks of treatment, we find a remarkable advantage in favour of the mercurialized; thus the chances that an individual treated with mercury will recover during the first week of treatment, are 18 to 1 against her, whilst against the non-mercurialized, the chances are 70 to 1. There are only 2·7 chances to 1 against a person of the former class, after being under treatment one week, recovering during the second week, whilst in the other class the chances are 6·6 to 1. During the first month 155 out of 232 were cured of those mercurialized, whilst only 119 out of 286 were dismissed of those treated on the other system. *There can be, therefore, no doubt that in the majority of slight cases of venereal sores, the exhibition of mercury greatly facilitates the cure.*

Of those however, who have been under treament one month, there is a greater probability that an individual will be cured during the second or third month if she has been treated without mercury; for out of 167 of this class who remained at the end of the first month, 42 were dismissed during the next four weeks, and 33 in the subsequent month, whilst amongst the mercurialized the numbers cured during these two periods were only 52 in the first, and 20 in the second. This is readily enough explained, when we remember that by the indiscriminate employment of mercury, many cases of

simple sores are much aggravated; that not only is the healing of the original chancres protracted, but that secondary symptoms are hurried on. The great difficulty in the treatment of a primary sore is to know in what cases to exhibit mercury; for the author believes that any practitioner trusting solely to that drug, although the majority of his cases will rapidly recover, will place a certain proportion in a much worse condition after than before its administration.

The author made various attempts to discover in what proportion of cases secondary symptoms followed the different methods of treatment, but found it was impossible in a Lock Hospital to arrive at any trustworty results. This chiefly arises from the fact that the same individual so frequently suffers from the complaint, and is subjected to different plans of treatment at different times. He was equally unsuccessful in the other wards of the hospital in obtaining any large numbers to bear upon this important matter; but he satisfied himself that in almost all the *worst* cases of secondary syphilis in both sexes, mercury had been freely given, and that therefore it is no preservative. With respect to the treatment of the secondary symptoms, he has always found mercury most successful in diseases of the periosteum and skin, where the symptoms have appeared within twelve or eighteen months after the primary sore, and where the general health has remained good. In the chronic cases, in which, years after the original disease was contracted, the patient still remains at times tormented with inflammation of periosteum and bone, he has for some years placed his chief reliance upon arsenic.

Sores with gonorrhœa.—There are recorded 170 cases of this class of disease, of which 53 were treated with mercury, and 117 without it. We find the difference in the time required for recovery again in favour of those who have taken the mineral, the average time of cure amongst them being 38·39 days, whilst in the other class it was 44·13 days. The third table is construeted on a similar principle with the preceding. This table presents a considerable similarity with that relating to gonorrhœa; the greater proportion of cures during the first week being amongst those who took no mercury, whilst the chances of recovery in the more chronic cases are much less amongst them than amongst the mercurialized.

TABLE I—(*Cases of Gonorrhœa*),

Showing the CHANCES AGAINST a female recovering during any of the undermentioned weeks after having been the previous number of weeks under treatment.

TREATMENT.	1	2	3	4	5	6	7	8
With mercury	31·5to1	5·3 to 1	1·9 to 1	2·5 to 1	3·1 to 1	3·7 to 1	0·8 to 1	1·3 to 1
Without do.	14·6to1	4·5 to 1	3·3 to 1	2·4 to 1	1·6 to 1	3 to 1	6·4 to 1	4·3 to 1

	9	10	11	12	13	14	15	21	26
With mercury	3 to 1	2 to 1	1 to 1	—	—	—	0 to 1	—	—
Without mercury . . .	2·7 to 1	0·7 to 1	—	3 to 1	2 to 1	3 to 1	2 to 1	1 to 1	0 to 1

TABLE II—(*Cases of Primary Sores*),

Showing the CHANCES AGAINST a female recovering during any of the undermentioned weeks after having been the previous number of weeks under treatment.

TREATMENT.	1	2	3	4	5	6	7	8	9	10
With mercury	18·5	2·7	2·7	2·	3·	3·2	4·1	3·1	3·	3·2
Without mercury . . .	70·5	6·6	5·6	3·7	2·9	2·6	2·6	1·5	2·	4·4

	11	12	14	16	17	19	21	22	23	29	31
With mercury	2·2	2·6	4·	3·	2·	1·	—	—	0 to 1	—	1·6
Without mercury . . .	1·7	1·	2·5	4·	3·	—	2·	1·	—	0 to 1	—

TABLE III—(*Cases of Gonorrhœa complicated with Venereal Sores*),

Showing the CHANCES AGAINST a female recovering during any of the undermentioned weeks after having been the previous number of weeks under treatment.

TREATMENT.	1	2	3	4	5	6	7	8	9	10
With mercury	52 to 1	5·5	3 to 1	3·	24·	5·	2·3	2·5	1·5	—
Without mercury . . .	28·2	15·1	5·6	3·7	4·9	2·2	3·5	4·3	4·2	4·2

	11	12	13	15	16	17	18	20	23	25
With mercury	5·	0·6	—	1·	—	—	—	—	—	0 to 1
Without mercury . . .	4·6	2·5	4·	—	3·	5·	0·6	1·	0 to 1	—

16. *On the Treatment of Stricture by Injection, with a Description of a New Instrument for the purpose.*—In the 'Lancet' of August 25, we find a paper by Mr. Machell, containing some new suggestions for the treatment of stricture.

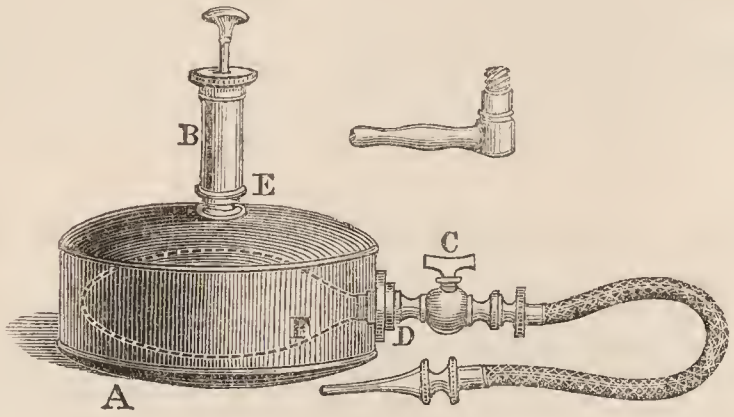
On investigating the nature and cause of this disease, he says—professional men have ably demonstrated the great affinity which exists between the stomach, intestines, and some other parts affected with obstinate stricture and contractions, both in remote situations and those more immediately connected. In calling attention to those deranged functions of the alimentary canal, where the secondary cause of these affections is considered to exist, it becomes imperative to remove such accumulations of the intestines as may tend to keep up the existing cause of diseased strictural passages. It is in

such cases that this injector, in its improved state, has been found to answer the intentions of the medical attendant, by affording at once the most prompt and effectual means of fomenting, gently relaxing, and clearing the intestinal tube of the offensive and irritating extraneous secretions.

It may be well to impress more strongly, the attention necessary to be directed to the state of the alimentary canal, as repeated experiments have proved that, under certain conditions of the nervous system, the stomach sympathises and continues to be affected for the space of several days afterwards; and when the membranous lining of the intestines and the stomach, and coats of the stomach, had suffered severely from irritating causes, strangury has frequently been occasioned; when, upon the alimentary canal having been properly divested of ill-conditioned secretions, and its healthy state restored, the pain and difficulty experienced in passing urine, the frequent desire, and other unfavorable sensations, have immediately ceased.

Strictures are very frequently produced by a state of the membranous lining of a canal being so slightly deranged as scarcely to be noticed for a length of time, and may, by beginning at one small nucleus, from neglect, at some distant period produce other contractions immediately in the neighbourhood of the first, or in a situation more distant; and such contractions seem to possess both a direct and a retrograde affinity to each other, as in a distressed state of the stomach and bowels in persons predisposed to spasmodic contractions, which so prejudicially influence the condition of strictures;—in such cases, the removal of one stricture will invariably facilitate that of others, on obtaining an improved state of the nervous system and muscular action. In the use of distending the urethra by means of bougies, or other mechanical contrivances, however gentle in their application, they cannot fail to cause a degree of stimulus which, on some urgent occasions, requires to be discontinued until the disturbed state of the implicated organs has been quieted by medical treatment, when the mechanical process of dilatation may again be reverted to with increased advantage. That such a sympathy exists between the strictured parts, which are thereby rendered unfit to perform their office, and some of the viscera, has, by repeated experiments, been sufficiently proved; for in proportion as the membranous lining and the corpus spongiosum urethræ become contracted, these parts are considerably more condensed and thickened into the consistence of cartilage, whilst the coats of the bladder increase in the same ratio in strength, for the purpose, as it were, of giving additional impulses to the urine when impelled through the contracted canal. A stricture of the urethra is frequently in extent only as if contracted with a silk thread, but at times, though seldom, it is about an inch in length. A permanent stricture generally appears to encompass the canal with a small perforation in the centre, and at times the stricture is on one side. The middle of a long stricture is sometimes larger in diameter than at the ends, and frequently the urethra assumes a tortuous direction; or a membrane, denominated a bar, will extend across the canal. All these remarks on the variety of strictures, which require different modes of treatment,—by bougies, catheters, natron exsiccatum, argenti nitras, kali purum, and unguentum hydrargyri fortius,—are introduced, in order to show the enormous amount of irritation which would be produced in an already excited state of the urinary organs, where extraneous deposits are of too stimulating a nature to require any addition of inflammatory excitement to remove the cause. With a view of mitigating the existing symptoms by the removal of all unnatural secretions, and relaxing spasmodically-contracted canals and passages, the soothing effects of heat and moisture are employed, as being well-known agents for

the purpose. Nothing but an easy and perfectly controllable method of administering them is wanted, a desideratum which I have found attained by means of the instrument referred to, a diagram of which may in some measure serve to point out its construction and mode of application.



A is a vessel made sufficiently strong, and of material impervious to air in a condensed state; B a syringe for compressing atmospheric air into the said vessel; C is a stopcock which screws into the opening at D, and, in conjunction with the valve E, serves to secure the injection, after being poured into the vessel through the opening, and to regulate the stream by diminishing or increasing the power from one drachm to the weight of several pounds; F is one of the vessels for containing compressed air, or any of the gases. When the injector is to be used, unscrew the stopcock C, and fill the vessel quite full of the liquid to be injected, then return the stopcock into the opening tolerably tight. The air-syringe B must now be screwed into E, which, being worked to the extent of twenty or thirty strokes, renders it ready for use, On introducing the ivory pipe in the usual way, the injection can be administered with any required degree of force, and in any position of the body, without the aid of a second person, and without the introduction of the slightest particle of atmospheric air.

III.

REPORT ON THE PROGRESS OF MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

BY THE EDITOR.

PART I.—MIDWIFERY AND DISEASES OF WOMEN.

The medical press, during the last six months, has not been prolific in works devoted to the subject of the present Report, the only one, indeed, of importance is that by Dr. Robert Lee, entitled 'Practical Observations on Diseases of the Uterus,' the second fasciculus of which is now before us.

This valuable work is printed in 4to, and illustrated by coloured engravings, of the same beautiful character which we have noticed as belonging to other illustrated works recently published by Mr. Churchill. Of the merits of the work in general, Dr. Lee's name is a sufficient guarantee. The present number contains the history of fibrous tumours of the uterus, the origin and progress of which, together with their identity with certain forms of polypi, are lucidly shown. If, as we doubt not, the succeeding numbers equal the first two, it will form a most important addition to the literature of uterine pathology, and must be in the hands of every practical obstetrician.

1. *Anæsthesia in Midwifery.*—We have of late heard but little of the exhibition of chloroform in labour through the public press, and it is therefore, probably, that the interest attached to it is somewhat on the wane. If we may judge from the tenor of numerous private communications, there seems to be a growing indisposition, in this country at least, to the employment of it in natural labour, though we are not prepared to say that the trouble attached to the use of the agent has not something to do with the objection. In instrumental and other forms of complicated labour, we believe that anæsthesia is still much employed by the leading accoucheurs in England. In Scotland, we understand that even in natural labour the withholding it is almost the exception. Dr. Simpson* has replied at length to the objections urged by Dr. Meigs (vide Abstract, Vol. IX, p. 318); but as he does not make use of any new arguments, we need not, having previously fully stated his view, go further into the matter.

—Dr. Denham has also furnished a report on the use of chloroform; the main objects of which are succinctly stated in the following conclusions:

1st. Chloroform is a most valuable agent in all turning, forceps, and crotchet cases.

2d. In some cases of natural or difficult labour it is useful in relieving pain, and relaxing the soft parts.

3d. If given in large quantities, or persevered in too long, it puts a stop to uterine contractions.

4th. In such cases the pains generally return with increased force, when the chloroform is discontinued.

5th. It does not relax the perineum more than the other soft parts.

6th. It may be administered so as to ensure immunity from pain, short of unconsciousness.

* Philadelphia Med. Examiner, April 1849.

Dr. Denham has never witnessed sexual excitement or any immodest demonstration.*

§ I. *Diseases of Women, unconnected with Pregnancy.*

2. *Congestion and Ulceration of the Os Uteri.*—Dr. Churchill speaks highly of the tincture of iodine as a local application in the above lesion. The strength employed is shown in the following formula:

℞ Iodinii, ʒj;
Potass. iodidi, ʒij;
Aquæ destillatæ,
Sp. vin. rect., āā ℥ij.

He commonly touches the ulcer once or twice with some other caustic previously to the application of this, which is then persisted in.†

—M. Fleury asserts that he has had great success in the treatment of engorgement of the cervix uteri by the use of prolonged cold douches; as, however, this writer is a professsed hydropathist, his remarks require to be received with some reserve.‡

3 *Sanguineous Uterine Discharges.*—Dr. Churchill reports favorably of the powers of Indian hemp in checking uterine hemorrhagic discharges. Its value in this respect was ascertained accidentally by Dr. Maguire, who had preseribed a small dose of the tincture of Indian hemp for a poor woman labouring under some form of neuralgia; and on inquiring into the effects a few days afterwards, the patient declared that it had cured both her complaints, and then, for the first time, informed Dr. Maguire that she had been suffering from menorrhagia. This led him to try it in some similar cases, and finding equally satisfactory results, he mentioned the fact to Dr. Churchill, requesting him to try it, which he has done extensively. Dr. Churchill mentioned it to the late Dr. Hunt and other friends, and the remedy he believes has had a pretty fair trial; and if their experience (as he believes) confirms his, the profession has reason to congratulate itself upon the addition of a most valuable remedy for a class of diseases whose materia medica has been hitherto very limited. The largest class of cases in which Dr. Churchill has found the most unqualified benefit are those of menorrhagia, where the discharge, though excessive, is fluid, and but little mixed with clots, and when the uterus is not enlarged. In many such cases, five drops of the tincture three times a day have stopped the discharge in twenty-four or forty-eight hours. When there is pain, too, if it be not excessive, relief is obtained without the addition of another anodyne. In other cases, when the discharge, whether too much or not, has returned too frequently, Dr. Churchill has succeeded in arresting or postponing it to the proper period by the tincture, just as can be done by means of ergot of rye. In those cases of menorrhagia, when the uterus is much congested and enlarged, and where the discharge is largely mixed with coagula, although it has succeeded in many cases, yet it has failed in other instances, and the success in some has been incomplete. Nevertheless, even in these, it is of great value; and finding that it possessed power even over uterine hemorrhage, it occurred to Dr. Churchill to try it in threatened abortion at an early period of the attack, when the hemorrhage was slight, and the pains rare and weak. In such cases, ergot of rye is out of the

* Dublin Journal, Aug. 1849.
† Medical Times, May 12, 1849.
‡ Gazette Médicale, 11 Mars, 1849.

question; lead has but little power. Opium and cold applications and quiet are our principal remedies, but they often fail; and, therefore, the addition of a direct and powerful agent which should combine an astringent with an anodyne, would be a valuable acquisition. Dr. Churchill has now tried it in six or seven such cases, and he has found that when employed sufficiently early, it succeeded remarkably well, but that at a later period it failed partially or wholly. Lastly, Dr. Churchill has tried it in three cases of cancer at a tolerably early period. He gave it on account of continued draining of blood, not to any great amount, and thought that perhaps its anodyne quality might, to a certain extent, supersede the use of opium. He does not think that these cases are sufficient for any definite conclusion as to its value; but the results will certainly induce him to repeat the trial. He does not for a moment suppose that it or anything else will permanently arrest the downward course of cancer, or that the hemorrhage will not return; but every degree of success, however temporary, every relief, even though slight, is of great value in these cases. Dr. Churchill does not pretend to explain its *modus operandi;* he can only say, that it appears to exert an astringent power in hemorrhages from mucous surfaces, and also to have a sedative or anodyne effect. The preparation he has invariably used is Mr. Donovan's tincture of the resin. He begins with five drops three times a day, in a few cases increasing it to ten, but seldom more. The effects are very soon seen, generally in twenty-four or forty-eight hours, often much sooner; nay, in some cases mentioned to Dr. Churchill by Dr. Hunt and Dr. Maguire, the effect was instantaneous. In some cases the beneficial effect was accompanied by a slightly unpleasant feeling in the head, resembling that from an extra glass of wine. In one case only has Dr. Churchill seen any more disagreeable results; but in that, five drops produced an extraordinary degree of nervousness, and a sense of sinking, almost of dying, which gradually passed off.*

—The advantages of the oxide of silver in menorrhagia, as some time back pointed out by Dr. Butler Lane and Sir James Eyre, is confirmed by Dr. Thweatt† (U.S.) This writer states that his experience with this medicine has been sufficient to induce him to repose great confidence in it when properly and judiciously applied. He does not pretend to claim for it the appellation of a specific, but is persuaded that, "*cæteris paribus*," all that is claimed for mercury in syphilis, or quinine in intermittent fever, can be claimed for the oxide of silver in menorrhagia, in its different forms. It is eminently superior to the acetate of lead, and other mineral and vegetable astringents usually employed in this disease.

The oxide of silver is, he thinks, best adapted to those forms of menorrhagia which depend on an undue excitation of the uterine organs, unaccompanied with high inflammatory action. Cases often present themselves where profuse hemorrhage makes its appearance at the usual menstrual period, or immediately after it has passed; in these cases there is an extraordinary excitation of the nervous system. The oxide of silver here often acts like a charm; calms the perturbation of the nervous system, and arrests the hemorrhage by its astringent qualities. It should be given in large doses, and repeated at short intervals until some effect is apparent. Women after parturition are frequently troubled with a sanguineous discharge, distinct from the lochia, which is difficult to remove by the usual remedies. The oxide of silver is an infallible remedy for this pathological condition.

He refers to one form of menorrhagia, which often baffles the skill and experience of the ablest practitioners, viz. the too frequent occurrence of the

* Medical Times, May 12, 1849. † American Journal of Medical Science, July 1849.

menses. The quantity of the discharge is sometimes larger and sometimes smaller than it naturally should be; the intervals are short, and, in many instances, the patients are never entirely free from some discharge; exhaustion and debility are the usual accompaniments of this morbid condition; impoverishment of the blood followed by a cachectic condition of the general system; the nervous system is deeply involved; palpitations of the heart become a great annoyance. There is likewise a general depression of the moral faculties; the digestive organs are ultimately implicated, and there is dyspepsia in its multifarious forms—gastralgia, pyrosis, &c., &c. Spinal irritation is of frequent occurrence; the patient complains during the short intervals (when there are any) of dull pains in the pelvic region, with the sensation of weight or a bearing-down motion in the uterus.

The oxide of silver is the only remedy in which any confidence can be placed to remove these symptoms. He has, under these circumstances, employed in vain the various preparations of iron and lead, together with the mineral acids; they afforded only temporary relief: but in every case in which he prescribed the oxide of silver, its action has been satisfactory.

The author's experience with the oxide of silver induces him to believe that its main action is upon the capillary circulation, and particularly upon the uterine capillary system; that its powers are specifically directed to the uterine system. Its operation upon the nervous system is that of a mild and unirritating tonic.

It is almost superfluous to state that this medicine is entirely nugatory, if not prejudicial, in those cases of menorrhagia which depend upon organic lesions. It never should be prescribed in cases of high inflammatory action; until after the subjugation of the inflammatory symptoms by antiphlogistic means, when it may be administered with great benefit.

The author is in the habit of prescribing this medicine in larger doses than usual. The only pathological effects he has witnessed from its use, in two-grain doses, two or three times a day, were uneasiness in the lower bowels, sometimes attended with slight tormina and tenesmus. These symptoms were easily removed by an anodyne enema. They often, however, require no attention on the part of the physician. The usual dose, when intended to be continued for any length of time, is a half grain to one grain, twice or three times a day, according to circumstances: it should always be combined with a small quantity of opium or morphia. The oxide of silver blackens the stools.

4. *Ovariotomy.*—Two successful cases of this severe operation have been placed on record since the appearance of our last Report: one of them we have already given (art. 83). The other, which is narrated by Mr. Elkington, is as follows:

Mrs. M., æt. 31, consulted Mr. Elkington in June 1848, at which period she had been married fifteen months. In general appearance she was tall, thin, and anæmic. First menstruated when seventeen years of age, and continued regular and in good health till about two months before she was married. During the two months preceding her marriage she was unwell every fortnight; sometimes very weak, and for several days each time; in fact she was scarcely ever free from a discharge. This continued for six weeks after her marriage. A few weeks before she had pain in the right side, "like a stitch." About three months after her marriage she began to increase in size, and first of all in the left side. In about one month from this time (being four after her marriage) she increased rapidly, being "unwell" every week, and for five days at a time. During the last three or four months

she has been "regular," menstruation occurring only once in the month, but continuing so for five days each time. The discharge was dark coloured, frequently coagulated, and smelling badly. Her general health and appetite have been good; she has seldom been sick. There is no increase in the breasts except when she is going to be "unwell." Has difficulty in making water, and passes but little; bowels regular. There is complete prolapsus uteri, which commenced about six months ago; at times it is the size of her hand. Can lie on either side, but best on the left. When the swelling began she could not lie on either side; tongue furred and swollen; pulse slow and weak. She had consulted two surgeons, who said she was pregnant. She is as large, or nearly so, as a woman at the full period of utero-gestation. The tumour is very moveable, irregular, and nodulated; there is indistinct fluctuation, varying in its character at different points. The breasts are small, and there is no areola around the nipples. The stethoscope being applied over the abdomen, no "bruit" could be heard in any part of the tumour. After replacing the uterus there could be felt no enlargement of that organ.

Diagnosis.—Ovarian tumour of the left side, of the multilocular form. She gradually increased in size, and about Christmas, or in January, 1849, measured forty-five inches round her. She now began to suffer very much from the great size and dragging of the tumour; her breathing was much embarrassed. She was tapped February 28th, 1849. The trocar was introduced through the linea alba, about three inches below the umbilicus. After a quart of thick fluid had been drawn off, no more flowed. A probe was then passed along the canula, when I found that the cyst was emptied, and that the point of the probe was pressing against another cyst. The trocar was again introduced, pushed on, and another cyst opened. At first, there was scarcely any escape of fluid, but after repeatedly passing a probe along the canula, the contents of the cyst slowly ran off. We succeeded in drawing off about five or six gallons of thick, ropy, albuminous fluid. The second cyst having been emptied, it was found that the size of the tumour was reduced only about two thirds, and that there were still several other cysts, but it was not thought advisable to empty them. In a few days she was convalescent. She again very rapidly increased in size, and in less than a month was as large as ever. Having made up her mind to submit to ovariotomy, the author was requested to operate. She was made fully aware of the importance and great risk of the operation. It was performed in the presence and with the assistance of Dr. Clay, Mr Fletcher, Mr. Dehane, and several other friends.

An incision of about twelve inches in length was made through the abdominal parietes, and after separating two or three slight adhesions, it was found necessary to diminish the size of the tumour before it could be got through the opening. The pedicle, which was very broad and vascular, was divided into two parts, and each tied with a very strong ligature. The tumour weighed forty pounds. She recovered rapidly; in fact she had not a single bad symptom. The wound was entirely healed, with the exception of the lower part, where the ligatures passed out, in seven days. The first ligature came away on the eighteenth day, and the second on the twenty-first day. She was down stairs a few days after, and is now to all appearance perfectly well.

5. *The Undersized Womb.*—Dr. Oldham notices, under this title, a variety of imperfect development of the female sexual organs, which consists in their retaining some marks of an infantine character. This defect is not at first very obvious, but the author believes it to be far from uncommon in practice, and, from not being properly understood, has, he thinks, been subjected to much mischievous instrumental interference.

The state of the organs varies in different cases: the uterus is generally undersized, in some instances being one inch shorter than natural. The interior is also sometimes occupied universally by the transverse striæ, which are, in the normal state, confined to the cervix. The vagina, in these cases, varies a good deal. Sometimes it is well formed, and of full dimensions, but generally it is short and shallow. In one case, the merest trace of the cervix could be traced, the canal being contracted, so as barely to admit the finger.

The general configuration of the body is sometimes without any marked defect, but generally the chest is contracted. The symptoms for which advice is usually sought, are deficient menstruation or sterility; the latter does not depend upon any want of capability in the completion of the sexual act, but is associated with sexual indifference.

Dr. Oldham has noticed two complications of the undersized womb: the one is a disease of its cavity, which is allied to scrofulous habit, and is evidenced by an exhausting, bloody, and purulent discharge; the other is displacement of the organ. The particular displacement alluded to is anteversion. He has not seen a true retroversion. The displacement he believes to be uniformly caused by a weakened state of uterine tissue, by which it becomes flexible at the junction of the body and cervix, and so falls forward as at a joint. The diagnosis of this condition he considers to be satisfactorily made out with the finger, and without the aid of the uterine sound.

Treatment.—The two symptoms which engage the attention of the patient and practitioner are the dysmenorrhœa and sterility; and the question is, whether the retarded growth of the internal sexual organs can be so influenced that the functional disorders can be cured. Dr. Oldham decides in the affirmative as regards some instances. The principal cause of the defect he traces to impaired constitutional power, either original or acquired during girlhood; and the remedies are those which impart vigour to the system, and stimulate the sexual organs. For this purpose a well-ordained system of hygiene is required. Regular exercise on horseback is to be advised, with generous diet and warm clothing. With this the author recommends abstinence from study, and the participation in exhilarating pleasures.

The particular medicines indicated are the preparations of iron. Cod-liver oil is useful if there is much emaciation. The beneficial effects of marriage are frequently very striking. Respecting the mechanical treatment of these affections, Dr. Oldham does not speak very favorably. He considers the cases which justify mechanical means as requiring the nicest discrimination. "There is," he observes, "scarcely any amount of danger which women will not go through to obtain the prospect of becoming mothers. They are notoriously credulous as to success, and are the ready victims to empiricism; and I would venture to say that obstetricians ought to be nicely scrupulous in encouraging a plan of treatment of doubtful efficacy, and dangerous to life." That it is occasionally dangerous to life, he subsequently proves by the narration of two cases, in which peritonitis was caused by attempts to dilate the cervix, and by the use of the uterine supporter.*

§ II. *Diseases of Pregnancy—Labour—the Puerperal State.*

6 *Superfœtation.*—Dr. Thomas B. Taylor, of Princeton, Miss., relates the following as a case of superfœtation. Clarissa, a negress, the property of Mr. A. Knox, aged about 35 years, was delivered of twins, one a mulatto, and the other a negro child. She had been married to a negro man on the plan-

* Guy's Hospital Report, Oct. 1849.

tation, of delicate constitution, for many years, and had had several children by him. Her menstrual discharge had occurred for several months previous to her pregnancy, at about the full of the moon. She felt herself pregnant by her customary signs, about the middle of the month, and, to confirm her suspicions, at the next period it did not appear. About three weeks from the time she first felt she had conceived, and one week after her menses had failed to appear, she had sexual intercourse *once* with a white man. She slept with her husband every night—had connection with him the night before she had intercourse with the white man, but not on the same night. At their birth the mulatto child bore marks of being at least three weeks younger than the negro ; thus sustaining the woman in her suppositions as to the time between her two conceptions. Dr. Taylor has every reason to believe the woman told the truth in relating the circumstances of her case to him.*

—Another instance of supposed superfœtation is related by M. Binogli. A female, native of Modena, previously mother of six children, became pregnant for the seventh time in 1817. Nothing unusual was observed, with the exception that the uterus appeared to be unequally distended, a furrow being perceptible along the median line. On the 15th of February, 1817, she was delivered of a male infant at full term, and well developed. The placenta was expelled naturally, and the woman recovered her usual strength ; but it was remarked that one half of the abdomen was still enlarged, and the movements of a fœtus could be distinctly ascertained. The patient continued in excellent health until March 14th, just a month, at which time labour ensued again, and she was a second time delivered of a male infant, living and well formed. In 1822 she became pregnant again, and bore a child now living.

Various explanations were given of this extraordinary case; and, amongst others, it was considered as a case of superfœtation, with double uterus, by M. Binogli. The justness of this opinion was verified last year by the death of the patient from apoplexy. On examination, the uterus was found to be double, with a single cervix. The preparation is preserved in the Hospital at Modena.†

7. *Extra-uterine Fœtation.*—An instance of this deplorable accident is recorded by Mr. Evan Thomas. The patient, æt. 27, unmarried, was admitted into the Cumberland Infirmary, complaining of pain in the lower part of the body increased on pressure, but without visible enlargement. She improved under the treatment adopted, but a few days after was suddenly seized with extraordinary abdominal pain, attended with vomiting and extreme collapse. The abdomen, especially the hypogastric region, was extremely tender to the touch ; but there was no sensible enlargement ; symptoms, like those just noted, recurred, though at longer intervals, until about twelve at noon (on Sunday), when she expired, conscious almost to the last. The treatment adopted was mustard cataplasms to the abdomen, and subsequently acet. lyttæ to the hypogastrium ; internally ammonia and brandy.

As soon as the urgent symptoms set in, the probable nature of the malady was surmised. The character and situation of the abdominal pain, occurring at intervals, followed by nausea, vomiting, and almost fatal syncope, were such as might arise from excessive loss of blood ; this, in the absence of symptoms like those which generally precede and follow perforation of the stomach or intestines, led the medical attendants to draw in this case a correct inference.

The body was examined thirty hours after death ; it was extremely pale ; the mammæ had undergone no change ; abdomen pretty full of fluid ; percussion dull all over, with the exception of the hypogastric region. On opening the

* New Orleans Journal, Nov. 1848. † Encyclograph. Méd., Fev. 1849.

peritoneal cavity, it was found to contain about six pints of fluid blood; a large clot filled the brim of the pelvis, and, amidst the coagula, we found a fœtus about three months old. The coagula, which were pretty firmly attached to the peritoneum, having been removed, the ovuline membranes and the placenta were found, between the layers of the right broad ligament, forming a tumour about the size of a hen's egg. The uterus was laid open posteriorly; its cavity was slightly enlarged, and lined with decidua; there were no offshoots of decidua into the fallopian tubes. The os and cervix uteri had undergone scarcely any change; the glands of Naboth were very prominent. A rent an inch and a half long was found on the posterior aspect of the tumour, through which the fœtus had escaped. The coverings of the ovum at this part (seemingly peritoneum only) being extremely delicate, the placenta was doubtless the source of the fatal hemorrhage. A reticulated membrane, like the decidua uteri, was found lining the cavity which lodged the ovum; this membrane was easily separated from the subjacent parts. The right ovary was larger and softer than its fellow, and when cut into, its upper segment presented an oval-shaped body, having a central cavity, surrounded by a broad fibrinous layer, and around this a well-defined vascular zone; in other words, what is called a "true corpus luteum." Externally, there were two irregular cicatrices, in one of which the aperture had not quite healed.

The left ovary was externally puckered, and presented, when cut into, a gristly appearance, and contained a false corpus luteum. There was no undue vascularity about the fallopian tubes,—an ordinary-sized probe could be introduced through the distal end for about two inches. The end of the probe being exposed with the knife, it was then seen that the tube had undergone a little contraction; a finer probe passed readily along the left to the uterus, and the right to the placental tufts.*

8. *Expulsion of Two Fœtuses, of unequal size.*—An instance of not very uncommon occurrence, the arrest of development of one fœtus, and its retention in utero, while the other is nourished in a normal manner, occurred to Dr. Horlbeck, who gives the following account of the case:

The patient, a coloured woman, had passed two menstrual periods, and was supposed to be about two months advanced in pregnancy, After undue exertion, she was seized with the most profuse flooding, which was arrested by the use of appropriate measures, and the woman made a rapid recovery. Dr. Horlbeck concluded that the product of conception had been lost, as he had never seen a case in which there was such profuse flooding where the fœtus was preserved.

The patient afterwards suffered from occasional small hemorrhages, until Dr. Horlbeck was again called to see her, October 16th, three months and nineteen days after the first attack, with profuse flooding, which had commenced two days previously. She stated that she had increased in size and in the regular course; had felt the movement of the child; that her breasts and abdomen had enlarged, with all the other symptoms of gestation. The os uteri was open, pains were occurring at regular intervals, and things had gone so far that Dr. Horlbeck administered ergot to hasten the discharge of the embryo. After the first dose a well-grown fœtus of between five and six months was expelled, which, her mistress stated, palpitated some time after its birth. The flooding was now checked, and the placenta was in the course of the evening discharged. On dissection, it exhibited the following appearances:—The placental mass was of considerable size, having a large, ruptured sac on one side, lined with the amnion, from the centre of which sprang the umbilical cord. The maternal surface of the whole mass presented a fresh

* Medical Times, May 12.

appearance, as if just separated from the uterus. On close examination, it could be divided into two unequal masses, connected with the smaller of which was perceived a smaller fœtus enveloped with its usual coverings; the transparent amniotic covering containing a clear fluid, in which was floating a fœtus some seven or eight lines in length. The sac being opened, the embryo was recognised sound, fresh and plump, and life-like in its whole appearance: presumed from its development to be about six weeks old. The features of the face—such as the eyes, mouth, and nose—were distinctly visible; its thoracic and abdominal members about two lines in length; its abdomen completely closed. The umbilical vesicle was distinctly visible, and filled with fluid. The cord had no swellings or bulgings in its course, but was of the same size throughout.*

9. *Uterine Hydatids—Extraordinary Case.*—The following case of hydatid disease of the uterus, which was accompanied by remarkable nervous symptoms, has been forwarded to us by Dr. Davey, of Ceylon:

Mrs. T., æt. (about) 24, a lady of sanguineous temperament, and usually in the enjoyment of excellent health, and very recently married, required the author's professional attendance in November 1847, in consequence of her suffering more than ordinarily from the "*phenomena and diseases of utero-gestation.*" On visiting her, she complained very seriously of nausea and vomiting, which she described as almost constant and attended with great pain. At this time she had been indisposed some ten or twelve days. The state of the bowels inclined to constipation. The tongue was slightly furred and yellow, and there was some disagreeable taste in the mouth, and particularly so in the morning. Mrs. T. had latterly habituated herself to a free and generous living; which, added to sedentary habits, it is more than likely predisposed her in an especial manner to become affected as she did. Alteratives were prescribed, with hydrocyanic acid for the vomiting. The effect of the pills was highly satisfactory; the tongue became much cleaner, and the bowels more regular; but the nausea and vomiting continued unabated. Effervescing saline draughts, sometimes with and at other times without tr. opii, were tried; but with not the least benefit. Leeches were applied to the epigastrium, and were thought to afford some relief to the *pain;* these were succeeded by blisters; and morphia was sprinkled on the denuded cutis, but with no real benefit. A solution of opium was also used and frequently repeated, but failed, as did also creosote. Finding all things alike useless, and that the vomiting continued as urgent as it had ever been; so much so as to cause the immediate ejection of everything of whatever kind, whether solid or fluid, from the stomach, the author was compelled to content himself with merely regulating the bowels with enemata of salt and water, and supporting the *vis vitæ* by injections of strong beef-tea, chicken soup, and the like; and to which *brandy* was now and then added, to stimulate the powers of life, and to relieve impending syncope. Opium, in some form or the other, being at the same time employed to relieve pain and procure sleep.

Time passed on, and each successive day the patient became worse,—more and more debilitated, the pulse hurried and feeble, and the countenance sunken and anxious; and to all this were added epigastric pain, sleeplessness, and occasional incoherence of speech (delirium).

Before matters had proceeded to this extreme length, the author advised that premature labour should be allowed to be induced, but in vain; and in this view of the case he was supported by Surgeon Stewart, of the Ceylon Rifle Regiment. However, this necessary and truly indispensable operation was delayed, at the solicitation of the patient and her husband, in order to try

* American Journal of Medical Sciences, 1848.

the effect of another mode of treatment, suggested by a third party; and which consisted in the free application of the argentum nitras to the os uteri and parts adjacent, together with its internal administration in the form of pills.

The induction of premature labour being at length decided on, the author dilated the os uteri with a large-sized male catheter, and repeated the dilatation after about forty hours; slight uterine pains succeeded the second introduction of the instrument, and the decoction of the ergot of rye was then given to accelerate them; but it was scarcely at all retained by the stomach. Nevertheless the action of the uterus continued; and terminated in a day and a half in a sudden and alarming expulsion of "waters," mixed with "coagula." The effect of this on the constitutional powers generally, and on the stomach in particular, was truly remarkable; the good effects were as immediate as they were permanent. A few hours had scarcely passed by, ere the countenance had assumed a comparatively healthy appearance, the pulse became slower and stronger, and the stomach not only retained its contents, but the appetite was restored. Each succeeding day found the patient improved and improving. She gained health and strength; and everything seemed to promise a speedy recovery. The lochial discharge gradually diminished, and, in due time, altogether ceased. No indication of the pregnant state remained.

Although the carelessness of the attendants was the cause of the author's never *seeing* what passed from the uterus, he did not hesitate to conclude, that the *ovum*, or a portion of it, escaped with the said "waters" and "coagula."

Change of air and a tonic regimen were considered alone necessary to the complete restoration of the health.

The sequel proves the reverse.

On the eighteenth or nineteenth day after the escape of the uterine contents, as above described, the author's attention was called to the state of the uterus, which the patient declared had somewhat increased, rather than diminished in size, within the past few days. He was informed also that the character of the vaginal discharge had much altered, and that it then presented a sanguineous appearance. An examination verified both of these statements.

He gave it as his opinion that most probably some portion of the ovum had been retained. On his next visit, after three days, he found all the symptoms much aggravated; the size of the uterus had, very evidently, much increased. Mrs. T. complained of a painful sense of distension of the organ, as if it were about to "burst;" and said, moreover, that she was losing the use of her fingers, the extremities of which had become insensible to feeling. The voice was reduced to a mere whisper, and the act of deglutition was performed with some difficulty.

Feeling assured that all the symptoms were dependent on the abnormal condition of the womb, and the presence within it of some irritating foreign body, the nature of which he could only conjecture, and believing that the persistence of this foreign body, whatever it might be, within the uterus, would progressively destroy the powers of life, the author gave it as his conviction, that the only course to pursue, at all likely to be of any real and permanent benefit, was that one calculated to rid the womb of its contents; in fact, to repeat the operation before resorted to, viz. the dilatation of the os uteri. A consultation was held, and his advice was overruled; but a week had hardly elapsed ere the case became so alarming, and all its symptoms so much aggravated, that further delay would have been only criminal. The uterine tumour had risen by this time to the umbilicus, and was exquisitely tender. The extremities, hands and feet, arms and legs, from the elbows and knees downwards, were completely *paralysed;* not a single fibre in any one muscle could be called into action; the extensors and flexors of both the thigh and upper arm were almost powerless. The nerves

of sensation, although not absolutely paralysed, were much affected, and now and then pricking pains were experienced in different parts of the limbs. Both respiration and deglutition were much impaired, in consequence, doubtless, of the abstraction of nervous power from the muscles concerned in these respective acts.

Mrs. T. was now removed to her home, in order to avoid the inconveniences and delays of being so far from the town. The dilatation of the os uteri was performed on two different occasions, and then expulsive pains came on; and, after continuing very regularly for two or three and twenty hours, terminated in the evacuation of a large quantity of *hydatids!*

The author was now led to hope that the parts affected would, in the course of time, reacquire their normal condition; nor did the progress of the case, immediately succeeding to the escape of the hydatids, do else than encourage so much; for thirty hours had scarcely elapsed ere the act of *deglutition* was unattended with the slightest difficulty or inconvenience. It is worthy of remark, that from the third to about the tenth day the lacteal secretion was continued. At the expiration of a week, the extensor and flexor muscles of the thigh and upper arm had regained considerable power; nor were the flexors and extensors of the fore-arm altogether useless; the digital extremities were capable of being very slightly moved. The lower extremities, although improved, and their motive power sensibly increasing, yet did they not at this time keep pace with the upper. The nerves of sensation everywhere appeared recovering their natural tone; the sense of touch was described as returning to its original and healthy state; at the same time, the slightest degree of pressure along the course of the radial and ulnar nerves, in either arm, caused much uneasiness and pain.

Mrs. T.'s general health was much improved and improving. A tonic regimen was pursued with apparent advantage.

On the sixteenth day from the escape of the hydatids, she was removed from her home to a more desirable locality, and quickly afterwards the voice began to reassume its original character; it lost the faint whisper which before characterised it.

In order to facilitate the restoration of the functions of the spinal system, the author now employed *galvanism;* but this agent appeared to produce injurious rather than beneficial effects. Nothing, therefore, was done for some time until, as some want of power remained, *mesmerism* was finally tried, and, as is stated, with the result of recovery of the motions of the hands and feet.

[In some remarks on this interesting case, Dr. Davey mentions the error into which obstetrical writers have fallen, in considering the presence of hydatids as not producing any untoward symptoms until their expulsion commences. This is correct as a general rule doubtless, or it would not be affirmed by such men as Gooch, Rigby, &c.; but that the rapid distension of the womb may react injuriously upon the nervous system, is sufficiently proved by the present case. Meigs, however, it may be stated, in his 'Obstetrics' lately published, distinctly acknowledges the occasional constitutional disturbance produced by their presence.]

10. *Labour and its Complications—Expulsion of a Bag of Fluid before Rupture of the Membranes.*—A case in which a membranous bag was seen to protrude from the vulva, and which was naturally enough mistaken for the presenting membranes, was brought before the notice of the Obstetrical Society of Edinburgh, by Dr. Wood. The bag was expelled entire, after which the membranes were found presenting naturally. The bag appeared to

have been a diverticulum from the amnios, the neck of which had gradually been contracted until communication was cut off.*

11. *Pressure on the Cord during Labour, New Mode of obviating the ill effects of:*—Dr. McCulloch makes known a new mode of practice, by which the amount of infant mortality may be lessened in many cases in which death from pressure on the cord is otherwise inevitable. It is found by the most authentic statistics that danger to the life of the child from this cause occurs in breech presentations once in 53 labours: in presentations of the superior extremities, after turning, once in 261, and where the cord presents, once in 245 cases. Thus we have in 649 labours 12 presentations of the breech, 7 of the inferior extremities, $2\frac{1}{2}$ of the superior extremities, and $2\frac{1}{2}$ of the cord, occasioning a loss of life at birth of about two per cent. of all children born. This great mortality Dr. McCulloch thinks he has succeeded in diminishing in his own practice in three footling cases within the last eight months, by enabling the child to breathe while the head was still within the cavity of the pelvis after the pulsation in the cord had been several minutes extinct. This novel state of existence was maintained by keeping the child's mouth open with the finger, and the perineum expanded to allow air to have free access into the vagina. He states that, in future, he shall endeavour to accomplish this object with greater certainty by introducing into the mouth the end of the largest-sized gum-elastic male catheter, with several perforations in it, and continue as before to allow as much air as possible to approach the face and nostrils. He further observes that in all cases of malposition, in which the practice he has suggested becomes desirable, the chance of respiration being established will be greater if the means are used before the circulation becomes feeble in the umbilical vessels; and if the child is born alive in the absence of pulsation in them, it may be fairly conceded that we have been successful in our efforts to preserve life. Some cases may occur where a small-sized male catheter with a suitable curve, might be used with advantage as a tracheal pipe. He adds that the infant's body should be kept warm, gentle traction employed, and all the other ordinary means of exciting contraction of the uterus used until the delivery is completed.†

12. *On Turning by External Manipulation.*—As this operation can only be performed before the liquor amnii has been discharged, Dr. Spengler observes that the opportunity of effecting it seldom falls to the lot of the private practitioner in Germany; but in midwifery establishments it is more easily resorted to, and Ritgen states that he seldom now employs other means. Dr. Spengler was called to the present case, occurring in a robust woman, on account of a hemorrhage after a fall, which, however, had ceased on his arrival. She was at full time. On examining the abdomen, he found it wanting in the usual roundness, and the integuments being relaxed, he was able on the right side to feel the lower parts of the child, and on the left a firm round body, which he concluded was the head. The os uteri was sufficiently open to admit the point of the finger, and its lips were thick and yielding; no presenting part could be felt. The sounds of the child's heart were inaudible, nor had the mother felt it move since the morning. The placenta-murmur was plainly heard at the left side. Believing he had diagnosed a cross birth, the author proceeded to endeavour to rectify the position. The woman was laid on her left side, and a small firm cushion placed under the child's head. During a pain, with one hand applied to the child's head externally, and the other towards its breech, he endeavoured to direct the one down towards the brim

* Edin. Monthly Journal, July 1849. † British American Journal, May 1849.

of the pelvis, while he raised the other upwards. Little success at first attended these efforts, and the woman was unable to lie any longer on her left side. After two or three hours' manipulation, the patient sometimes lying on her back and sometimes on her side, with the cushion pressing on the child's head, some movement was at last impressed upon the infant's extremities; and after a while the bag of waters could be felt pressing against the os uteri, having a hard body behind it. The pains were slack, and on account of the thickness of the membranes, these were not easily ruptured. After the discharge of the waters, the pains continued too slight, and the author having no more ergot, resorted to a practice which we have more than once found useful under similar circumstances. He says that it occurred to him, that as plugging the vagina may be employed successfully in the artificial induction of premature labour, the same mode of inducing uterine action might here prove available; wherefore, he filled it with sponge and charpie, and in a very short time very active pains came on, expelling a dead child. The woman resumed her household affairs in a week.*

13. *Craniotomy—the Child born alive.*—A remarkable case is narrated in the annals of the Medical Society of Flanders, in which craniotomy was performed in consequence of deformed pelvis, but the child could not be extracted. As a last resource, the Cæsarean section was performed, and, to the astonishment as well as horror of the surgeon, the infant was extracted alive, and exhibiting an immense lacerated wound of the skull. The brain was completely denuded, and appeared to be reduced to a complete pulp. The child survived, and suppuration was established, large quantities of brain coming away at intervals with the purulent matter. When exhibited to the Society, the child (a boy) was nine years old, and did not appear intellectually inferior to the average of boys of his age. The mother did well, and died some years afterwards of fever.†

14. *The Cæsarean Operation.*—As a per contra to the successful case of this severe operation, given in our "Abstracts" (art. 85), we have to mention one reported by Mr. Campbell of Lisburn, with a fatal termination from peritonitis. The child was, however, saved. The patient had borne several children at times, but subsequently became the subject of mollities ossium.‡ In reference to this operation, we may also mention that Dr. Radford has suggested that it may upon inquiry be found to be preferable to craniotomy in many cases in which the latter operation is now performed. For the purpose of deciding the question between the two operations, Dr. Radford has requested the record of the experience of such who may be disposed to assist in the inquiry, in a letter published in the Provincial Medical and Surgical Journal.§

15. *The Puerperal State.—Convulsions.*—Dr. Cormack has contributed a paper, the main object of which was to point out the connexion between renal congestion and puerperal convulsions, which exist in a very great proportion of cases. He considered puerperal convulsions to be—though not always, though generally—the toxicological results of non-elimination of the exercions of the blood; and that, in by far the greater number of cases, this non-elimination depends on renal congestion, caused by the pressure of the gravid uterus. Œdema and albuminuria are frequent concomitants or precursors of convulsions, as shown by Dr. Lever and by MM. Devilliers and Regnault. The gravid uterus, or any tumour pressing on the renal veins,

* Neue Zeitschrift für Geburtskunde, xxv; and Brit. and For. Med.-Chir. Review.
† Prov. Med. and Surg. Journal, Sept. 22. ‡ Med. Gaz., June 29, 1849. § Oct. 17, 1849.

must cause congestion of the kidneys, and consequent toxæmia; and this is the more injurious to the pregnant woman, as her blood requires an extra degree of depuration, both from excrementitious matter from the fœtus, and also from the elements of milk. Retention of these should, Dr. Cormack thought, be considered as the cause not only of convulsions, but also of various other distressing symptoms occurring during pregnancy. Uterine epilepsy probably often arises from toxæmia; and the suppression of the lochia may induce post-partum puerperal convulsions. When convulsions recur after delivery, we must suspect structural renal disease. The explanation of delivery generally arresting convulsions is not so much that uterine irritation is lessened, as that the hyperæmic state of the kidneys is relieved. The most common subjects of puerperal convulsions are strong, healthy young women, pregnant for the first time; and an examination of the cases recorded by authors proves this fact. In them the abdominal walls are most unyielding, and unable to relax under the pressure of the gravid womb. Cases of puerperal convulsions in subsequent pregnancies might be either toxæmic or non-toxæmic; the toxæmic cases might be classed under the following heads: 1st. Persons who had never gone to the full time. 2d. Persons of extreme muscular development. 3d. Persons suffering from structural disease or obstruction of the kidney. 4th. Excessive volume of uterine contents, including twin cases, &c. Dr. Cormack was desirous of drawing attention to toxæmia as a cause of puerperal convulsions, and also of recognising non-toxæmic convulsions. He thought that Dr. Tyler Smith, who had treated this subject more philosophically than any preceding writer, had, while recognising toxæmia, attached too little importance to it. The following diagram shows the relation of toxæmia to puerperal convulsions:

PREGNANCY causes

Increased necessity for depuration of blood.

A tumour (gravid uterus), causing renal congestion, which causes

Non-elimination of poisonous excrement from blood.

TOXÆMIA, which causes

Action on brain, spinal marrow, and medulla oblongata; hence result CONVULSIONS.

In the discussion which ensued, Dr. Tyler Smith expressed his sense of the importance of the view taken by Dr. Cormack. He considered it would be difficult to estimate too highly the influence of impurity of the blood as a direct irritant of the nervous centres in pregnancy. It was necessary to take a comprehensive view of the causes of blood-poisoning dependent on the pressure of the gravid uterus. There was the pressure on the intestinal canal, causing constipation; there was the pressure upon the emulgent veins, causing albuminuria, and the retention of urea in the blood; there was the pressure upon the hepatic vessels, which he had frequently observed to produce pink deposits in the urine; and lastly, there was deficient oxygenation of the blood, from pressure upon the thoracic viscera. All these agencies interfered with the proper depuration of the blood in advanced pregnancy, and often produced

distressing nervous symptoms. But it was curious to observe that, during pregnancy, certain vicarious or complementary secretions and excretions were set up, which tended to preserve the blood in a healthy state. There was the sickness and vomiting of pregnancy, the salivation which sometimes occurred, the increased action of the glands of the axillæ and of the skin generally, and the secretion of milk, which was often present prior to confinement, especially in cases of albuminuria. All these actions he considered tended to compensate for the effects of pressure on other organs.*

16. *Puerperal Tetanus.*—Dr. Aubinais, of Nantes, relates three cases of this affection which have come under his observation, believing that it has not received sufficient attention from writers upon obstetrics. The exciting cause of the disease is almost always the suppression of the lochia, or of profuse sweating during the milk-fever, by wet or cold, and hence probably the reason why it is so much more common in rural than in civic districts. In the *first* case, the milk-fever was high on the fourth day, when the woman (æt. 30) crossed a wet floor, while the skin was covered with sweat, with naked feet. She was soon seized with prolonged shivering, abdominal pain, and suppression of the lochia, and gradually the tetanic condition, commencing with difficult deglutition, markedly prevailed, inducing a slight degree of emprosthotonos. She died seven days after the symptoms began. In the *second* case a poor woman, æt. 23, having suffered from an attack of eclampsia, for which she was bled, was delivered a few days after of a seven months' child. She went on very well until the fifth day, when, having drank a large quantity of cold water, she was seized with shivering, followed by trismus and difficult deglutition, which went on to complete tetanus. On account of her enfeebled state, blisters were alone resorted to, the lochia being also restored by warm baths. The spasmodic symptoms did not give way for twenty days, and forty elapsed before she was quite restored. In the *third* case, the woman (æt. 34) likewise, while in a state of perspiration, exposed herself to wet and cold four days after confinement, with the effect of suppressing the lochia. The tetanic symptoms did not appear until twenty-four hours after this, but then became severe, and resisted treatment until the tenth day, when they gave way.†

PART II.—DISEASES OF CHILDREN.

17. *On the Excito-motory Origin of the Attitudes of the Fœtus in Utero.*—In continuation of the Essay, the commencement of which is analysed in our last volume (p. 336), Professor Simpson proceeds to confirm the position he has assumed by the study of the abnormal attitudes of the fœtus. In the former section he attempts to establish the following propositions :—

1st. The usual position of the fœtus, with the head lowest, is not assumed till about the sixth month of intra-uterine life.

2d. Both the assumption and maintenance of this position are vital acts, depending on the vitality of the child, and ceasing at death.

3d. In human physiology, no vital action capable of modifying position is recognised, excepting that of muscular action; and further, the muscular acts of the fœtus are not voluntary, but excito-motory.

* Dublin Medical Press, June 27.

† Brit. and For. Med.-Chir. Rev., No. v, from Revue Méd.-Chir.

4th. The cephalic attitude of the fœtus is that best adapted to the shape of the normal shape of the fully-developed uterus.

5th. The adaptive position of the contained to the containing body is the aggregate result of reflex movements on the part of the fœtus, by which it keeps its cutaneous surface as far as possible from causes of irritation.

In proceeding to discuss the production of malpresentations of the fœtus, the author endeavours to show that these abnormal positions originate in one or more of the following series of causes:

1st. Prematurity of labour, particularly occurring before the natural position of the fœtus is established.

2d. Death of the child in utero, or, in other words, the loss of the adaptive vital reflex actions of the fœtus.

3d. Causes altering the shape of the fœtus or uterus, and thus forcing the fœtus to assume, in its reflex movements, an unusual position.

4th. Preternatural presentations are occasionally the result of causes which physically displace the whole fœtus, or its presenting part.

Each of these causes are then considered more in detail, and supported by the evidence of statistical tables. From these the author makes it appear—1st. That while cephalic presentation occurs in 90 per cent. of labours at the full time, they occur in but 70 per cent. of premature confinements. 2d. He also shows that cephalic presentations are 16 per cent. less frequent in dead than in living children; and pelvic and transverse presentations are five and four times more frequent respectively.

The intra-uterine diseases of the fœtus and monstrosities in their effect on position, together with the effects of spasmodic contraction of the uterus, organic diseases of the uterine parietes, placenta prævia, distortion of the pelvis, irregular form of the uterus, next undergo review; and the paper terminates by two sections, in the first of which the relative influence of the above-specified causes is considered; and in the second, the cause of repeated malpositions explained.*

18. *On the Fœtus in Utero as Inoculating the Mother with the peculiarities of the Paternal Organism.*—Under this title Dr. Alexander Harvey has written a communication noticing the remarkable phenomenon, termed by breeders "breeding back," which is well known to be frequent among the lower animals, and which may therefore be reasonably concluded to be also a property of the human species. In the horse the foal of a second or third gestation has been known to be marked by the peculiarities of the sire of a former generation, as in the famous instance of Lord Milton's Arabian mare, which, though covered by a thorough-bred horse, produced foals, resembling the quagga, by which she had been impregnated several years previously. In the canine race, the same peculiarity is a matter of continual observation. Instances are likewise cited by the author in the sow and in the cow.

Of this curious law of nature, two explanations have been given; one by Haller, who ascribes it to a permanent impression made by the semen upon the ovaria; the second, by a veterinary surgeon, Mr. M'Gillivray, who attributes it to an influence exercised upon the mother's constitution by the fœtus in utero. The author gives the preference to the latter theory.†

19. *Phlebitis of the Venous Sinuses of the Dura Mater.*—Rilliet and Barthez speak of this as a rare disease, or one which is rarely discovered, offering no consideration of practical importance, but interesting in an anatomical point of view. The *morbid anatomy* of these diseases embraces—1st. The changes

* Edin. Monthly Journal, July 1849. † Ibid, Oct. 1849.

which take place in the blood. 2d. Those which occur in the vessels. 3d. The secondary lesions of the brain and its membranes.

1st. In their natural state, the sinuses of the dura mater are found to contain, after death, a certain quantity of fluid blood, or a few small clots, which occupy a portion only of the venous channels. Sometimes they are found empty; but, when diseased, one or more of the sinuses, especially the superior longitudinal, are distended with dark soft masses of coagulated blood, which, however, are sometimes firmer, reddish, elastic, dense, thick, being easily detached from the lining membrane, which retains its polish. The corresponding part of the dura mater is tense, and forms a projection externally, when the concretion occupies the longitudinal superior sinus. The concretions sometimes extend to the cerebral veins, giving them the appearance of having been injected at the surface of the brain; but the deep veins very rarely present the same appearance. Sometimes the blood found in the sinuses is mixed with pus. M. Tonnelé has noticed the presence of false membranes of a yellowish colour, and of the consistence of coagulated white of egg, moulded to the shape of the vessel which contained them, but they were probably layers of the fibrin of the blood deprived of colouring matter.

2d. The lining membrane of the sinuses is generally perfectly healthy, or else slightly reddened by the blood; but the external cellular coat is occasionally decidedly thickened.

3d. The secondary lesions are *hemorrhage* and *dropsy*. The former occurs either under the pericranium in the cavity of the arachnoid, or in the substance of the brain. The latter occupies either the cavity of the arachnoid, the subserous cellular tissue, or the ventricles. The other alterations which have been noticed, such as traces of inflammation of the brain or its membranes, may be regarded merely as coincidences. It is worthy of remark, that in none of the cases which have come under our observation have we found tubercular disease within the head, although most of the patients were in a high degree scrofulous.

Symptoms.—The authors are of opinion that in the present state of our knowledge, it is impossible to form a correct diagnosis of this affection; for, in the cases we have witnessed, there has been an entire absence of cerebral symptoms.

Causes.—Everything which impedes the return of the venous blood to the heart, favours stagnation in the sinuses, and we may mention in particular, tumours situated in the vicinity of the great vessels which convey the blood from the head to the heart. Purulent absorption may occasion phlebitis of the sinuses. Inflammation may also be propagated by continuity of tissue, as from caries of the petrous portion of the temporal bone. Another order of causes, more general than all the rest, is the state of debility and cachexia into which patients have fallen when inflammation of the sinuses supervenes. In all the cases analysed by the authors, the children were enfeebled by chronic disease; a great number were tuberculous, others rickety, and others weakened by prolonged convalescence from acute disease. With respect to age and sex, there were seven girls and ten boys. Six were 2 years old; three, 4 years; one, 5 years; one, 6 years; one, 7 years; two, 9 years; one, 10 years; one, 11 years; and one, 14 years old.

Prognosis and treatment.—Phlebitis of the sinuses is evidently a serious disease, either in itself, or on account of the secondary lesions it determines, and the unfavorable state of the body in which it occurs. With respect to treatment, since we are unable to recognise its presence during life, we have no power to apply a remedy. All that can be said is, that, seeing how much real influence debility of constitution exerts over the disease, we cannot be

too careful to avoid those debilitating measures which bring patients into a state of anæmia from which they cannot rally, and which exposes them to a host of serious diseases.*

20. *Tubercular Meningitis.*—A comprehensive essay on this fatal disease has been contributed by Dr. Hahn, and published in the 'Archives Générales,' which, as it offers some useful practical hints on the treatment of the disease, more especially in its latter stages, is worthy of passing notice. The author first speaks of meningitis occurring suddenly, without being preceded by symptoms indicative of previous tuberculous diathesis. In these cases he advises bleeding and calomel, but relies chiefly on the latter, guarding at the same time against unnecessary salivation, the severity of which may destroy life after the disease for which the mercury was given has subsided. He speaks also in strong terms of the cold affusion, by which he states that he has several times succeeded in rousing the child after the supervention of complete coma. Another measure of great value in the same emergency is friction of the scalp with tartar-emetic ointment, repeated every two hours, until pustulation is established. This is a severe measure; and occasionally induces gangrene, but there are few parents who would not readily see their infant snatched from impending death, though at the risk of subsequent intense suffering. It is, however, possible by management, to avoid such excessive inflammation. Of the success of this method the author speaks in high terms, having by it saved fourteen cases in apparently a hopeless state of coma.

In the second class of cases noticed in this memoir, viz. those in which the cerebral symptoms are preceded by others, denoting a general tubercular cachexia, a modified plan of treatment is advised, bloodletting, except locally and sparingly, is contraindicated; neither is it safe to push calomel to the same extent. The author in this, as in the preceding case, relies much on counter-irritation of the scalp, and advises the same means of fulfilling his indication.

The memoir terminates by the recital of several cases in which a cure was obtained by the tartar-emetic friction of the scalp, under the most unpromising circumstances. Of these cases it will suffice to cite one as an example:

A fine boy of nine months old, was suddenly attacked with convulsions. He recovered from these, and cut his first teeth shortly afterwards; he was soon observed to fall away, to become listless, and to lose his appetite, without any condition of tongue which could indicate intestinal derangement. His bowels became constipated, his pulse irregular, and he began to vomit and to become torpid. Fever was soon added to his symptoms, and it was evident that he was the subject of meningitis. Leeches were applied, and calomel given, but in spite of treatment he lapsed into complete coma. As soon as the latter symptom became distinct, tartar-emetic ointment was rubbed into the scalp every four hours over a space the size of a crown-piece. Free suppuration ensued, and signs of amelioration were speedily witnessed. The child became gradually more sensible, his appetite returned, and in a fortnight all traces of his malady had vanished.†

* Prov. Med. and Surg. Journal, Nov. 14.

† Translated in Prov. Med. and Surg. Journal, Nov. 28.

IV.

REPORT ON THE PROGRESS OF PSYCHOLOGICAL MEDICINE.

JULY 1848 to DECEMBER 1849.

BY C. LOCKHART ROBERTSON, M.D.,

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Since the date of the last Report furnished on this department of practical medicine (Vol. VII, January to June, 1848), we have received the following publications connected with the subject, the materials of which we shall endeavour, as far as our limited space will admit of, to incorporate into the various sections of this Report. The arrangement adopted is similar to that followed in our Reports, only that—as is usual—some sections are at one period more written on than others.

I. *Outlines of Insanity.* By Sir Alexander Morison, M.D., &c. Edited by his son, Thomas Coutts Morison, Esq.

II. *The Journal of Psychological Medicine.* Edited by Dr. Winslow. Quarterly (in exchange).

III. *The New Moon; or Crichton Royal Institution Literary Register.* Monthly.

IV. *The Alpine Retreat of the Abendberg (for the Treatment of Infant Cretins).* Edited by John Coldstream, M.D., Fellow of the Royal College of Physicians, Edinburgh.

V. *A Critical Treatise on the General Paralysis of the Insane.* By James M. Winn, M.D., &c.

VI. *On the Amendment of the Law of Lunacy.* By George Robinson, M.D., Lecturer on Medical Jurisprudence in the Newcastle-on-Tyne School of Medicine.

VII. *The Defects of the Lunacy Law.* By T. T. Wingett, M.D.

VIII. *A Remonstrance with the Lord Chief Baron touching the case of Nottidge v. Ripley.* By John Conolly, M.D., &c. &c.

IX. *Copy of a Letter to the Lord Chancellor from the Commissioners in Lunacy, with reference to their Duties and Practice under the Act* 8 & 9 *Vict., c.* 100. (Lord Ashley.)

X. *A Letter to the Right Honorable Lord Ashley, relative to the case of Nottidge v. Ripley.* By T. T. Wingett, M.D.

XI. *A few Remarks on the Provision made for the Insane in India.* By George M. Ogilvie, M.D., Bombay Medical Service. (For private circulation.)

XII. *History, Description, and Statistics of the Bloomingdale Asylum for the Insane.*

XIII. *Reports* of the following Lunatic Asylums: Hanwell, Surrey, Glasgow, Dundee, Edinburgh, Lancaster, Dumfries, Stafford, Friends' Retreat, Pennsylvania Hospital, Virginia (Eastern), Littlemore, Aberdeen, Bloomingdale, Suffolk, Cumberland and Westmoreland, North and East Riding of Yorkshire, Devon, the Physicians' Report of St. Luke's Hospital for Lunatics.

XIV. *Report on the District, Local, and Private Lunatic Asylums in Ireland*, 1848. Presented to both Houses of Parliament, by command of her Majesty, 1849.

We have, however, been disappointed in obtaining the various numbers of the *American Journal of Insanity* published since the appearance of our last Report (July, 1848).

We would take this opportunity of renewing the favorable opinion we expressed in our last Report of the able and zealous manner in which Dr. Winslow has, through many difficulties, persevered in carrying on his *Quarterly Journal of Psychological Medicine.*

§ I.—*On the Present State of Lunacy and of Lunatic Asylums.*

In our last we gave under this section an analysis of an official Report from the Commissioners in Lunacy to the Lord Chancellor, containing much valuable information on the state, at that date, of the insane in England. No further report has as yet been published by the Commissioners, although we have reason to believe that one is at present in preparation. The labours however, attendant on that commission are so arduous as to leave the Commissioners but small leisure for literary undertakings.

I.—IN ENGLAND AND WALES.

1. *Condition of the Insane Poor in the County of Lancaster, not resident in Asylums.*—Mr. Gaskill (whose recent elevation to the office of Commissioner in Lunacy is an appointment reflecting the highest credit on Lord Ashley, whose selection he was, and one on which we beg sincerely to congratulate him) has published a letter on the subject to the chairman of the committee of visiting justices for the county of Lancaster, from which we extract the following remarks:—

TABLE *showing the Proportion of the different Classes of Insane Paupers, resident in each Hundred of the County, not resident in Asylums.*

HUNDRED.	Idiots.	Imbeciles.	Insane.	Total.
West Derby	33	64	26	123
Salford	80	129	94	303
Amounderness	20	29	11	60
Leyland	15	28	7	50
Lonsdale	23	19	11	53
Blackburn	27	36	36	99
Total	198	305	185	688
Congenital, 503.		Insane, 185.	Total, 688.	

In inquiring how are these cases to be provided for, Mr. Gaskill speaks of the importance of preventing the cases of congenital idiocy from occupying the accommodation (provided under the 8 and 9 Vict., c. 126) for the insane poor in the county, as a circumstance which must at once be apparent; as also the necessity for some immediate legislative enactment regarding them.

"On the ground of expense alone," says Dr. Gaskill, "therefore, it appears

desirable that this matter should be well considered, lest, by the indiscriminate admissions into the Lancashire asylums of the 503 (say 550) persons born with deficient mental organization, a great permanent and unnecessary burden be thrown on the public.

"And here it should be borne in mind, that the expense of maintenance in an asylum of an individual belonging to this class is very far beyond that of a case of insanity; seeing that in the one instance the patient remains in the establishment for life, but in the other, if a recent case, there is a probability of discharge." We coincide in the opinion here expressed by Dr. Gaskill.

Might not asylums for the incurable insane and idiot population be constructed at a smaller expense, and also conducted more economically than hospitals for the curable sane, which the present county asylums are?

Dr. Gaskill concludes his letter with this judicious statement.

"In laying these facts and reflections before the committee, it will not, I trust, be imagined that I have any wish to advocate a stinted accommodation for the insane poor of the county; on the contrary, my ardent desire is to see a liberal amount of that accommodation provided, but at the same time I submit that it should be judicious in its character, and suited to the condition of the parties needing it.

II.—CONDITION OF THE INSANE IN INDIA.

We have an interesting pamphlet* on the state of the Insane Establishments in India, in every way deserving the attention of the authorities of the India House.

Number of Insane Persons in India.—As nothing definite is known, says Dr. Ogilvie, regarding the statistics of insanity in India, it is impossible, even approximatively, to indicate the numerical ratio subsisting between the confined and unconfined lunatics of that country. But it is an indisputable fact that the latter constitute a very numerous body, and that the inmates of the Indian asylums form but a small minority of the insane population.

At the end of this pamphlet (Appendix I) are stated a few of the considerations which seem to throw discredit on the oft-repeated assertion that the natives of India are singularly exempt from mental derangement. It would be convenient, the author observes, if those who talk of the "*comparative*," and "*remarkable*," infrequency of this malady in India, would let us know the precise ideas they attach to these expressions. If, while the proportion of the insane to the sane in Europe generally is nearly as 1 to 1000, it should in India be only as 1 to 4000, we might truly enough assert that insanity is a "*comparatively*" rare disease in that country. Yet, despite this comparative infrequency, there would be, at this moment, in the Bengal and North-West Provinces alone, upwards of 14,000 lunatics unprovided with medical treatment. If, again, the ratio of the insane to the sane, were only as 1 to 10,000, we should, indeed, be justified in saying that insanity was a "*remarkably*" rare disease; but it would nevertheless be true, that, in the provinces referred to, upwards of 5000 of our fellow-creatures stood in need of, but were denied, the advantages which only an asylum can afford.

3. *Present Condition of Asylums for the Insane in India.*—Mr. Ogilvie

* A Few Remarks on the Provision made for the Insane in India, with Suggestions for its Extension and Improvement without encroaching on the Public Treasury. By George M. Ogilvie, M.D., Bombay Medical Service. (For private circulation.) London, 1849.

continues that it is as far from his wish, as it would be inconsistent with his duty, to speak in gratuitous disparagement of any of the public institutions of India; but he cannot avoid expressing a fear that some of the lunatic establishments of that country,—built when views now exploded obtained regarding the treatment of the insane,—are not on a par, either as regards construction or equipment, with the first-class asylums of Britain.

Of the Bengal asylums, of which there are four, Colonel Sykes informs us that they are "not generally constructed to admit of classification." But there is reason to believe that, despite this defect of construction, they possess many of the characteristics of the better class of European asylums.

Of the Madras asylums, he knows nothing.

It is to the Bombay Presidency, in which he serves, that he now exclusively refers. Within the territories subject to that Presidency are three asylums, —those of Bombay, Ahmedabad, and Poonah.

Of the first of these it is to be observed that in it systematic employment is impossible. They have little but gardening to resort to, and that in a quarter where they have only about an acre of ground inclosed, and can get no more; and where they are, for six months in the year, without water other than that brought to them from the Fort diteh, nearly three miles off.

Of the asylum itself he merely observes, that most assuredly it is *not* first class, and that its exterior and general appearanee are but little calculated to disarm the popular prejudices.

Of the asylum at Ahmedabad he has received the following account, from a gentleman who, not many years since, had charge of it:

"The buildings are of a straggling nature, without any plan; being partly an old house in the town, altered and added to, and partly a new range of rooms and a new court. These, together, formed a sufficiently comfortable asylum for the small number of patients (about 40) that were in it when I had charge of it. But they do not constitute a proper asylum, in accordance with the improved mode of treating the insane now, universally, adopted in this country. Nor are they, from their confined situation, capable of extension. As to alteration, *that* is impossible. . . . . There is *no* ground round the asylum available for cultivation. The facilities we had for occupying the insane were very small. I was enabled to employ a few in my own garden; but want of space prevented me employing them to any profit, either in or out of the asylum. Hence my chief object was to amuse them with games, &c."

Of the asylum at Poonah he has seen only the exterior, having had, during his residence in India, but two opportunities of visiting that station: one immediately on his arrival in the country, when he was not aware that such an establishment existed; and the other just before his departure. Nor has he been successful in obtaining any definite information regarding it. But he observes that both it and the one at Ahmedabad are, as it were mere adjuncts to the "*Civil Hospitals*," and are placed under the "*Civil Surgeons*"* of the stations in which they are located.

* The functions of a civil surgeon embrace attendance on the neighbouring civil servants of Government and their families; rendering medical aid to such sick natives as present themselvs at the Civil Dispensary; the entire responsibility of the Civil Hospital; the medical duties of the jail and of the police corps, with, occasionally, those of military detachments. In addition to these avocations, the civil surgeon is encouraged to augment his salary by officiating as an assistant-magistrate. And, as we have seen, there devolves on him, if he be stationed at Ahmedabad or Poonah, the superintendentship of an asylum which may be situated at some distance from his private residence.

III.—CONDITION OF THE INSANE IN IRELAND.

An official Report on the District Local and Private Lunatic Asylums in Ireland, in 1848, has recently been presented to both Houses of Parliament by command of her Majesty. From this document we extract the following information regarding the present condition of the insane in that country:

4. *Duties of the Inspectors of Lunatic Asylums for Ireland.*—Under the provisions of the acts 5th and 6th Vic., c. 123, and 8th and 9th Vic., c. 107, our duties, which are of a very comprehensive nature, extend not only to the superintendence of district, local, and private asylums, and the management of details connected with them, but also to the inspection of every hospital, jail, bridewell, and poorhouse in which lunatics are confined. The visitations made by us to these different establishments within the last two years have been consequently most numerous, amounting, as appears by our quarterly accounts, to the number of 564, with an aggregate travelled distance of over 14,600 miles.

5. *General Observations by the Inspectors on the result of the visits.*—From personal observation, as well as from the result of inquiries on these manifold occasions, we feel justified in stating, that whilst, with some few exceptions, the interests of the insane poor of this kingdom have been duly regarded in the last-named institutions, as far as their limited capabilities would admit of, our district asylums are deserving of the highest commendation for the efficient manner in which they are conducted, the attention bestowed on them by the local governors, and for the zeal and successful treatment of the visiting physicians. It affords us further gratification to bear testimony to the liberal spirit which prevails throughout all classes towards a department of the public service with which we are officially connected; and we believe that no reasonable amount of money would be denied by the country at large that could be profitably expended in promoting the recovery, or securing additional comforts to the destitute insane.

The loans originally advanced by Government for the purchase of sites, and the erection of existing asylums, in progress of repayment, are now nearly liquidated, whilst the quarterly issues from the Treasury for their maintenance are punctually refunded by grand jury presentments, in equable proportion from the respective cities and counties forming the districts.

On our several visitations we have made the *dietary*, *clothing*, *bedding*, *the in-door* and *out-door occupation*, the *classification* and *religious exercise* of the patients special subjects of investigation, as well as other matters connected with the general expenditure, internal condition, and domestic economy of the institutions themselves; as in former Reports the utility of such inquiries has been fully adverted to, in the present we need only remark, for your Excellency's satisfaction, that an onward progress in improvement still continues. The non-restraint system is efficiently maintained without the occurrence of a single accident; and the humane example of the resident managers and matrons, who seem devoted to the well-being of the insane, is practically followed by the subordinate officers. That habits of industry are far from being incompatible with the loss of reason, or an original deficiency of intellect, is satisfactorily exhibited by the employment of lunatics and idiots in our district asylums, where, independent of farming operations and common household trades, many are employed in the manufacture of cloth, linen, lace, &c., the saving from which amounted in the last two years to £3629. We would here take the opportunity to suggest that a certain portion of the net profits might be both charitably and judiciously laid aside for the benefit of

convalescents, particularly females, so as to secure them a temporary support after their discharge, and to obviate the danger of a relapse from penury and destitution.

6. *Wandering Lunatics.*—With respect to wandering lunatics and imbeciles, amounting, according to the returns furnished through the constabulary, to over 6000, we apprehend that in some remote districts they may be considered almost extinct. At the present moment it is not in our power to furnish statistical information on this head; but we trust, in a separate appendix, to be enabled to give an accurate report of their numbers, classification, and localities.

7. *Propagation of Insanity by wandering Idiots and Intermarriages.*—We may here express our belief, as the result of observation and inquiry, that insanity, in all its varied forms, can be occasionally traced, and even through remote degrees of relationship, from its original propagation by wandering idiots and imbeciles, and that the practice of intermarriage, which prevails in some districts, from a desire of the parties to perpetuate the tenure of land or other property amongst their immediate kindred, is not an unfrequent cause of lunacy; in evidence of which we might instance the fact of ten of the same family being committed in the course of a few years as dangerous lunatics alone to the jail of Monaghan.

8. *Ratio of Insanity to the Population in England, Scotland, Wales, and Ireland.*—For a series of years, the statistics of insanity exhibit its increase in these kingdoms, but under peculiar phases, and in somewhat different proportions to the respective populations. In England the number of persons labouring under mental disorder is to the general mass as 1 to 870, in Scotland and Wales 1 to 740, and in Ireland 1 to about 900; whilst the ratio of the idiotic to lunatics would stand in England nearly as two to three, in Wales 2 to 1, and in this country, as far as can be accurately ascertained, as 1 to $2\frac{1}{2}$.

9. *General Statement of the total number of Insane Persons in Asylums, Jails, and Union Workhouses in Ireland, on the 31st of December*, 1848.—This is represented in the following table:

Asylums, &c.	Males.	Females.	Total.
District Asylums	1348	1255	2603
Local Asylums	151	214	365
Private Asylums	245	187	432
Jails	196	142	338
Union Workhouses . . .	778	1162	1940
Total	2718	2960	5678

§ II.—*Government of Lunatic Asylums, and Moral Management of Insanity.*

The following section is composed of extracts from the various Reports which have reached us, and contains therefore all the latest suggestions by those practically engaged in the subject.

Infinitely the best Reports published are those by Dr. Browne, of the Crichton Institution, Dumfries.

10. *Amusements and intellectual Occupation of the Insane.*—We subjoin the following table to illustrate (particularly to those intrusted with the care of patients of the higher classes) what may be done to break the dread

monotony which generally pervades such establishments. Dr. Browne's table is drawn up for one year. Our limits only permit of the insertion of a portion of it: we have therefore given a month from each season of the year:

Amusements of the Patients, Crichton Royal Institution, for the year 1847-8.
Number of patients in the house at the end of the year, 154.

Date.	Nature of Amusement.	No. Present.		
		M.	F.	Total
1847.				
Dec. 7	Theatre in Dumfries	4	—	4
„ 10	Exhibition of Deaf and Dumb	47	25	72
„ 13	Theatre in Dumfries	3	—	3
„ 17	Concert of Amateurs in Asylum	45	29	74
„ 21	Theatre in Dumfries	6	7	13
„ 22	Exhibition by Swallow—Feats of Strength, &c.	45	36	81
„ 24	Ball in Drawing-room	38	40	78
„ 27	New Orleans Serenaders in Drawing-room	59	44	103
1848.				
May 12	Lecture in Asylum	40	26	66
„ 16	„ „	44	31	75
„ 17	Concert in Asylum	35	30	65
„ 26	Excursion to Carlaverock	—	12	12
„ 26	Party to Concert, Dumfries	6	—	6
„ 30	Excursion to Newabbey	—	12	12
July 1	Excursion to Newabbey	14	—	14
„ 3	Visit to Terregles	1	—	1
„ 4	Excursion to Cumlongan	12	—	12
„ 5	Theatre in Dumfries	4	—	4
„ 6	„ „	—	12	12
„ 7	Excursion to Newabbey	15	—	15
„ 11	„ „	15	—	15
„ 15	Flower Show and Fête			
„ 18	Excursion to Newabbey	13	—	13
„ 19	Concert by Amateurs in Asylum	42	30	72
„ 22	Party to Batty's Amphitheatre	10	6	16
„ 27	Excursion to Drumlanrig Castle	6	6	12
„ 28	Laying of Foundation Stone	13	—	13
Sept. 1	Excursion to Lochmaben	15	—	15
„ 5	Lecture in Dumfries	3	—	3
„ 7	Excursion to Lochmaben	—	16	16
„ 7	Exhibition in Asylum—M'Millan's	41	28	69
„ 9	Excursion to Lochmaben	—	12	12
„ 11	Ventriloquism in Dumfries—M'Millan	4	—	4
„ 15	Flower Show, Castledykes	—	6	6
„ 19	Theatre in Dumfries	3	—	3
„ 20	Dalskairth, nut-gathering	9	—	9
„ 25	Theatre in Dumfries	5	7	12
„ 29	Party to Barnsoles, nutting	11	—	11
„ 30	Theatre in Dumfries	6	5	11

The catalogue of the means employed with this view contains only such as are public and social. It must not be concluded that these different expedients are chosen at hazard, or without care and a direct reference to the condition of the patients. A visit to the theatre is interdicted because the entertainment announced is of questionable morality, or calculated to excite sanguinary impulses or painful associations. A ventriloquist is instructed to intersperse his deceptions with distinct intimations that they are deceptions, with explanations of the mode in which they are effected, and with humorous allusions, which may cast ridicule upon credulity and superstition. A lecturer is warned of such topics as may prove obnoxious or exciting, and enjoined to purge and purify his observations of all that may call up a blush or a frown, or inflict pain. So far as is practicable, recitations and exhibitions are subjected to a rehcarsal; and the rejcctions of applicants which have taken place would show that the anxiety for amusement is less than the anxiety for suitable amusement. Not only has every season its appropriate recreation, but an attempt is made to signalise many of the national and traditional festivals in such a manner as to give scope to fancy, and food for recollection, in the midst of conviviality. Martinmas has not its fatted ox, but it has its oblation of fruits and wassail; Christmas has its religious rite and its festivity; St. Andrew's Day is celebrated by patriotic music; Twelfth Night has its cake; on St. Valentine's Eve, in the interval of a concert, are distributed valentines of every kind and form and hue, calculated to inspire admiration or provoke laughter; Midsummer is celebrated by the horticultural show; and Hallowe'en is fertile in all the customs, from ducking for apples and burning nuts to the cup of lamb's wool, which have for ages prevailed among northern nations. How far such observances exert a permanent influence upon the mind it would be rash to affirm; but it is certain that the insane are healthier, and display fewer of their characteristic peculiarities during their continuance. New Year's Day is marked by its visit and cup of greeting, its good cheer, and by gifts of books, souvenirs, almanacs to those who will receive them as peace-offerings, or as rewards or tokens of friendship. In the same spirit gifts have been presented to the benefactress of the institution.

11. *Teachers and Companions for the Patients.**—Each additional year's experience among the insane more fully confirms the writer in the views which he has with some fulness detailed in previous Reports, in reference to the value and importance of the class of persons whom in this hospital we have styled teachers and companions for the patients. If properly qualified, no persons can add more essentially to the comfort and happiness of the insane—can aid more materially in carrying out, in the proper spirit, many of the directions of the chief medical officer—prevent so effectually the occurrence of difficulties among the patients, or between them and their attendants, and secure so thoroughly to all interested the conviction that nothing wrong can be committed by any one, and no duty be neglected without certain and speedy detection.

We continue to find a single individual of this class, of each sex, of great value in our scheme of treatment, and the extension of the number, so as to bring their influence still more effectually on individual patients, I regard as one of the most important improvements to be made in the organization of hospitals for the insane.

12. *Schools in Lunatic Asylums.*†—It has been recently given as the

* Dr. Kirkbride's Report of the Pennsylvania Hospital for the Insane, 1848.

† Dr. Galt's Report of the Virginia Lunatic Asylum, 1847.

opinion of some of the first thinkers on the subject of insanity, that the mental exertion from study, and the establishment of schools in institutions for the insane, is of great utility in attaining these desirable ends. Perhaps of all those who have latterly had the management of the insane, there are none who have advanced ideas more original in relation thereto, who indeed have evinced a higher degree of talent, than M. Leuret in France, and Dr. Conolly in England. Both of these gentlemen have had also a vast amount of experience with regard to the insane; and it hence deserves mention here, as respects the influenee of different studies on this class, that there are no other physicians who have offered a stronger testimony in their favour. We may also state that, in the July number of one of the leading medical reviews of Great Britain, it is observed, whilst speaking of these schools—"Wherever they have been established in this country, in France, or in America, the testimony is universally in their favour as powerful means for ameliorating the condition of the patients."

To one inexperienced as to the phenomena of insanity, it would appear almost of course, without due reflection, that deranged persons were incapable of the mental exertion required in any study; but this is found not to be the case, when we refer to facts on the subject. It might indeed be inferred as probable at least, from remarks in other articles of this report. We have nearly always some patients who are engaged in study, or in teaching, although no direct encouragement is systematically given them to pursue such a course. Some of those discharged have improved their mental acquirements considerably during their stay. More than thirty years ago, one of these, before leaving the asylum, had been taught to read and write. Were it deemed necessary to go into details, there are too many facts bearing upon this subject, deduced from the records of institutions for such persons, to permit us to distrust in the first place an aptitude, and secondly the benefit to the insane, of engaging in direct mental efforts, apart from any bodily exertion.

13. *Removal of Appearances of Restraint.*—Mr. Hill states, nearly five years have elapsed since he submitted, for the sanction of the Committee of Visitors of the Surrey Asylum, the propriety of abolishing all guards to windows, and of dispensing with them for fires also; arguments seemingly cogent were urged in favour of them by those who differed from him in opinion; it was declared too, that the flower-pots which were introduced into the wards to decorate the windows, and break the monotony and cheerlessness of unattractive walls, would be converted into missiles; on his visit to Wandsworth in August last, he was much pleased to observe that the economy of the wards and day-rooms in these respects had undergone no change.

Guided by principles which he practised first in Surrey, Mr. Hill has endeavoured to organize this institution as having for its combined objects the cure, care, and healthful industry of the insane; the additional experience gained has tested the genuineness of the scheme, and proves the utility of freeing lunatic homes from all semblances of restraint: not a single guard of any kind is employed, and the whole of the gas-lights are within reach.*

[Similar trials of our own in the removal of window and fire-guards have been attended with similar results.]

14. *Labour of the Insane.*—The most important of all the hygienic agents

* Mr. Hill. Report of the Lunatic Asylum for the North and East Ridings of Yorkshire, 1849.

in operation for the cure of the inmates remains to be noticed, namely, the *occupation* afforded to the patients. The record of work done, which accompanies Dr. Skae's Report, bears ample testimony to the extent to which the resources of the institution have been rendered available for this purpose. The value of the in-door work alone amounts to £1261 13*s.*, and exceeds that even of the previous year by £354. We believe these results will bear comparison with those of any other institution. They include the in-door operations alone, and such only as afford a real return. Such are the works executed by the carpenters, glazier, upholsterer, tailors, shoemakers, printers, females, and blacksmiths, under which denomination is included a very large amount of gas-fitting and plumbers' work. Besides these, there are the important and extensive operations carried on in the garden and grounds, the labours of the females in the kitchen and laundry, and the numerous occupations of those who work actively for their own comfort and amusement, although not contributing to the records of work done for the institution. All who could be induced to work, and safely trusted with the employment of their choice, have been engaged, and they form together an active, industrious, and productive little world.*

— Dr. Kirkman informs us, that in his asylum he reckoned a short time ago that, upon an average, one hundred of each sex were more or less employed; and that it is chiefly with the men on that anticipative labour which is never *done*. In the garden and the fields, every season and every day brings fresh employment with it; and just that kind of employment which has excitement enough to engage the feelings of the heart, while it stimulates advantageously without distracting the powers of the brain.†

15. *Patients of their own accord coming to an Asylum.*—Mr. Wilkinson states that, during the past year, they have had four applications for admission from patients themselves; this speaks very favorably for the mode of treatment, as well as for the moral influence exerted on the minds of those liable to attacks of mental disease. It shows that the system now generally adopted is fast dispelling those feelings of horror and disgust with which lunatic asylums were wont to be regarded. Three of the four cases have been admitted very recently.‡

16. *The Church service in its relations to the Insane.*—On this subject Dr. Browne has the following very apposite observations: "The insane were at one time the especial care of the Church. There was a particular part of the building, a solemn service, a sacred custodier, appointed for them. It is but acting in conformity with this primitive usage that public worship now forms an important part in the moral discipline of asylums. As religious truths are amongst the first imparted, they are among the last which fade from the mind. The act of prayer, and the posture, when the act transcends the capacity, is observed in patients with the most chaotic and enfeebled minds. Impressed with this observation, every effort is made to induce the inmates to attend chapel, whenever their condition admits of such a mark of confidence; and the congregations are unquestionably larger than they would be if collected upon a narrower basis, if none were admitted but those who could receive the whole truth, and those who could give their whole heart in adoration. The principle in view is, on the contrary, that if one ray of light enter the mind, one chord or sympathy be awakened; if to the imbecile there

* Dr. Skae. Report of the Edinburgh Asylum, 1848.

† Dr. Kirkman. Report of the Suffolk County Lunatic Asylum, 1849.

‡ Mr. Wilkinson's Appendix to the Report of the Cumberland Lunatic Asylum at Dunston Lodge, 1849.

be communicated the simple confidence of a little child; if to the miserable there is secured a momentary calm; or if these jarring and discordant spirits are placed in any degree in harmony with the place, the purpose, and the act; there is much of gain. The attendance is, however, entirely voluntary, which is not the case with regard to other public meetings, so that higher motives and attractions may be inferred to exist than in ordinary occasions. It is to be remarked that those who ostentatiously declare that they deny the truth of what they hear, or the efficacy of that in which they join, are often present; that many who deny their right, or share, or interest in the glad tidings published, go there to listen, and sometimes for a brief space to believe them. The service of the Church of Scotland is the recognised duty and employment of Sunday; the service of the Episcopalian Church is performed in the evening, and accompanied as it is by instrumental music, and marking by its ritual the great epochs and events of the gospel history, and enriched by names, and observances, and festivals which are interwoven with the early associations and social enjoyments of all men, whether within its pale or not, addresses so many of the better elements of man's nature, and addresses them in a tone so gentle and persuasive, as to form a powerful adjuvant in the work of solace and tranquillization. Who can forget, in witnessing these services, our Saviour at Gadara or in the synagogue in Capernaum?" *

§ III.—*Diagnosis.*

17. *Diagnosis between Insanity and Delirium Tremens and Phrenitis.*—In our last Report, we gave the diagnosis of mental derangement from delirium tremens, phrenitis, and hysteria, with all of which it may be and is confounded. We have, since that date, met with more than one instance of phrenitis and delirium tremens, certified for as cases of mental derangement. "The experience of gentlemen connected with asylums will," says Dr. Robinson,† "support me in the statement that, in consequence of this hiatus in the medical curricula, errors of diagnosis in mental disorders are by no means of unfrequent occurrence, even among otherwise experienced practitioners. I refer not only to the comparatively harmless error of mistaking delirium tremens for insanity, but to the more serious cases in which acute mania—generally a disease of debility, and its consequence, irritability—having been actively treated on the old antiphlogistic plan as phrenitis, the unhappy patients, if they survived the process of depletion, have sunk into a state of hopeless dementia."

18. *Diagnosis between Real and Feigned Insanity.*—In our last Report we also pretty fully detailed the principles of diagnosis between real and feigned mental disease. We have since that period met with a marked case‡ in which the symptoms of chronic mania were very well simulated, apparently with the view of obtaining a discharge from her Majesty's service. Space will not permit a detail of the case, but the following extract from the conclusion of our observations on the case, will illustrate the principles which guided the diagnosis:

The gradual development which the diagnosis of this case underwent, under

* Dr. Browne. Report of the Crichton Asylum, Dumfries, 1848.

† On the Amendment of the Law of Lunacy, by George Robinson, M.D. Reprinted from Medical Gazette, 1849.

‡ A Case of Feigned Insanity, by C. Lockhart Robertson, M.D. Monthly Journal of Medical Science, Aug. 1848.

careful and continued observation, confirms the value of the statement, that "in cases of difficulty, confinement with observation in an asylum for the insane, is our last resource, and cannot fail in the course of time in proving successful." The doubts as to the existence of mental disease, which the incoherence of thought and loss of memory *on one subject alone* raised, were more and more confirmed by the patient's own letters and conduct, until the proof of his malingering became so clear, that he himself could not deny the truth of the inference.

Again, the influence the emotions of fear and of hope exerted over him prove the value of the diagnostic—I, on a former occasion, laid down, "that as such persons (those labouring under chronic mania) are insensible to the operations of the passions of hope, fear, anger, &c., the emotions of these may, in those feigning this disorder, perhaps be produced."* The threat of a shower-bath and seclusion removed for good all symptoms of incoherence of thought in general conversation; the assurance, that on recovery he would be sent back to his duty and not discharged the service, as he in Letter I anticipated, led to the writing of Letter II, which, in the hint of future violence, and in the statement, that if he were sent back to duty he might "shoot or run the bayonet through some of his comrade soldiers or officers," &c. &c., contained farther confirmation of the feigned character of his disease, inasmuch as they evinced in the patient's mind a sensibility to the emotions of hope, fear, and disappointment, which, had the disorder he assumed been real, would not have existed.

Lastly, all doubts as to the nature of the case were entirely removed by his assertion on the 13th of May, when told that he was feigning insanity, "that it would be difficult to prove it, and that the medical officer of the jail ought not in that case to have sent him to a madhouse;" while his subsequent escape, and its attendant precautions, confirmed more decidedly than was agreeable the fact, that the patient had simulated mental disease with the view of obtaining his discharge from her Majesty's service.

19. *Irish Criminals feigning Insanity.*—In the course of the two past years the Inspectors of Lunatic Asylums (Ireland) have been officially called on to investigate five capital cases, where the plea of lunacy was represented as a stay to punishment or trial. "The first was that of a man for the murder of his wife, and on whose behalf a petition was presented alleging the culprit's insanity. One of the Inspectors was directed to report as to the fact, and though the report negatived altogether the existence of mental disease, from some extenuating accidents connected with the crime, the sentence was commuted; this individual is at the convict depot. The second escaped capital punishment from the strong testimony that was submitted of his low mental condition, and of a complete obtuseness to all moral feeling. Of the other three cases, the first came under the designation of recurrent mania. The prisoner being incapable to plead was removed to the district asylum, and in the event of recovery, will be arraigned. The last two who were accused of murder simulated madness; one of the parties, amongst other feigned symptoms, observing for four months an unbroken silence; they were tried, convicted, and sentenced to death."†

* Shakspeare, who evidently must have studied insanity from nature, notices this in that beautiful delineation of feigned dementia or chronic mania, in the character of Edgar:—

> "My tears begin to take his part too much,
> They'll mar my counterfeiting."—*King Lear.*

† Report already quoted.

§ IV.—*Judicial Insanity.*

20. *The Case of Nottidge versus Ripley.*—Few cases have within late years more deservedly attracted attention than the case of Miss Nottidge, and as every one of our readers must have heard of the strange opinions laid down by the Chief Baron in trying the case, we shall proceed at once to consider the history of the case as related by Dr. Stilwell, under whose care she was placed.

21. *Dr. Stilwell's History of the Case of Miss Nottidge.*—On the 12th of November, 1846, I was requested to receive Miss Nottidge as a patient at Moorcroft, and on the evening of that day she arrived, accompanied by her mother, a certificate of her unsoundness of mind having been previously signed by a physician and a surgeon. I received from Mrs. Nottidge the following statement of her case:—That she was forty-two years of age, and that from her early youth her mind had been directed with much intensity to religion, and that a large portion of her time had been devoted to the study of the Scriptures, and the writings of religious men. That, some three or four years ago, a person of the name of Prince came into the neighbourhood of Mrs. Nottidge's residence as a curate, and, by his preaching, obtained such influence over Miss Nottidge and three of her sisters, as to induce them to leave their home, and follow him to Brighton, to which place he had removed. After various wanderings, Mr. Prince, having been removed by the bishop from the church, settled with his followers at Charlinge, near Bridgwater, and built what is called by them an "Agapemone, or Abode of Love." To this building the four Miss Nottidges subscribed, and on the opening of the chapel situated in it, but which is now turned into the feasting-room, they left their mother at Brighton to attend the ceremony. This was in June 1846. The three youngest did not return to their mother, but married, on one day, three of Mr. Prince's associates at the Abode of Love. Miss Nottidge returned to her mother's house in Suffolk, where she remained until two of the residents at the Agapemone came for her in a post-chaise, and induced her, in an evil hour, to quit that house, which from infancy had been one of peaceful happiness, and graced by every domestic virtue. Alas! now how changed! During this residence in Suffolk, Miss Nottidge's mind (always, be it remembered, of a most excitable and tender nature) had been racked by the most intense conflict between her affection for her aged mother and her home, and the new docrines and principles which had been imposed on her by Mr. Prince, and to which, though doubting, she yielded. On leaving her mother, she said to her "I go, but it is like tearing the flesh from my bones!" For six weeks it was impossible to ascertain her residence. At length Mrs. Nottidge received letters from several persons of undoubted respectability, stating that her daughter was living at Charlinge in "*great iniquity*," and making statements it would be libellous for me to write, or you to print, especially if the greater the truth the greater the libel. Mr. Nottidge, the brother, and Mr. Ripley, the brother-in-law, determined, at all risks, to make an effort to rescue their sister, and proceeded to Charlinge to remove her by force, which they accomplished, and brought her to London, not for the purpose of placing her in an asylum, for at this time not a suspicion of her insanity existed in the minds of any of her friends, but to induce her to return to her home.

On Miss Nottidge's arrival in London, on the 10th of November, she replied to all her friends that it was quite useless urging her to return home, that she must live with "God" at Charlinge. She then told her assembled relatives that it had been revealed to her that Mr. Prince was "God manifest in the

flesh;" that "the spirit of our Lord had descended on earth, and had chosen the body of the person she once knew as Mr. Prince as his temple of residence or abode;" she added, that "the world would soon be at an end, that the day of grace was passed, and the day of judgment arrived." These extraordinary announcements, her altered manner, loss of all feeling for her family, and total abandonment of prayer, which she had continued up to her recent removal to the Agapemone, alarmed her friends, and led them for the first time to doubt her sanity.

Her uncle recommended that medical men should be called in, and Dr. Rowland and Mr. Morton were sent for; after a careful examination, they came to the conclusion that Miss Nottidge was of unsound mind, and signed her certificate. She was on the following day placed with me. I must here remark, that a near relative of Miss Nottidge had, the year before, been under my care, labouring under mental disease, and had happily recovered, and it was at the recommendation of this relative that she was sent to Moorcroft. For two days, Miss Nottidge refused to speak to me on the subject of her delusions, simply declaring it was "the will of God, and that it was all in his hands!" I therefore thought it my duty to inform the Commissioners of Lunacy more minutely of the case, and had an interview with them at their office. Within a short time, two of the commissioners (Dr. Turner and Mr. Campbell) visited Moorcroft, and had a long private interview with Miss Nottidge, and satisfied themselves that she was properly detained in the asylum. At first Miss Nottidge was melancholy, and much depressed in spirits. She refused to wear a bonnet, or walk out of the house, and seldom entered into conversation; spent much of her time walking up and down the room, singing what she termed praises, making use of no intelligible words. She daily expressed her surprise that "God did not send for her," stating that she was perfectly happy in her mind, knowing that he knew all things, and that she could not be detained unless it was his will. Every night, on going to bed, she packed all her clothes up, expecting God would send for her during the night, and this she continued to do as long as she remained at Moorcroft.

By degrees she became cheerful and more communicative. At different times she told me "the day of grace was passed, and the day of judgment arrived; that it was useless to offer up prayers, she only sang praises." She intimated that she and all the Agapemone party were saved, and that the world would soon be at an end. She told me she did not know if I could be saved; she hoped that I should, but she could not help it. On one occasion she told me "that she should not die like other people, and be buried in a coffin, but be carried up to heaven in the twinkling of an eye." I use her exact words; and on my expressing my astonishment at her assertions, she instanced the translation of Elijah. She repeatedly told me Mr. Prince was "God Almighty," "God manifest in the flesh," that the spirit of our Lord had entered into him whom she once knew as Mr. Prince, and that he could render her immortal. She never read the Bible, declaring it all completed now, and therefore it was quite useless so to do. Miss Nottidge, during the summer of 1847, improved so much, that I hoped she would entirely recover: she became cheerful, tranquil in her deportment, resumed her bonnet, and again paid attention to her dress, at the same time seldom speaking of her delusions. Her bodily health at this time was very good. At her urgent request, and after giving her promise not to leave without our knowledge, she was permitted to walk out unattended, and this she continued to do until the 6th of January, 1848, on which day she went out under the pretence of calling on my wife, and made her escape to London. In a letter she sent me from the station, to allay my fears, she says: "I firmly believe it (the going away) is the will of

God." "Fear nothing: God will provide." "The Lord is my helper." She was brought back on the 8th of January; and from this time to the period of her discharge (May 15th, 1848), continued from time to time to repeat all her delusions. She had entirely lost all natural affection for her mother and friends—a most frequent symptom of insanity. I should not omit to mention that Miss Nottidge refused to write to any one for a lengthened period, alleging that God knew everything—He knew where she was, and would fetch her when He thought right.

During Miss Nottidge's residence at Moorcroft, she was examined privately, eight times, by the Commissioners in Lunacy, including Drs. Turner, Prichard, and Hume; and the three Legal Commissioners, Messrs. Procter, Mylne, and Campbell. These gentlemen were unanimously of opinion that she was of unsound mind. Dr. Marshall Hall visited her once a fortnight, and the case was fully laid before Dr. Conolly; these eminent physicians entirely concurred in the views of the commissioners and medical attendants. In determining the state of my patient's mind, it was important to ascertain how far the residents at the Agapemone believed in the divinity of Mr. Prince, &c.; and it was found that they did not believe anything so monstrous. During the examination at the recent trial, they all explicitly denied any such belief; and two of them, in reply to Sir F. Thesiger's inquiries, distinctly gave it as their opinion, that a person entertaining such a belief must be of unsound mind.

In the month of May 1848, Miss Nottidge was discharged by order of the Commissioners in Lunacy on the ground that her bodily health was declining, and might be seriously injured by longer detention, they still remaining of opinion that she was insane. Dr. Turner dissented from this decision. The result was, that in a few days she gave the whole of her fortune, more than £6000, to the very man she believed to be God, and went to reside in the Abode of Love.*

22. *The Lord Chief Baron's Opinion with reference to this case.*—"It is my opinion that you (the Commissioners in Lunacy) ought to liberate every person who is not dangerous to himself or others. If the notion has got abroad that any person may be confined in a lunatic asylum or a madhouse who has any absurd or even mad opinion upon any religious subject, and is safe and harmless upon every other topic, I altogether and entirely differ with such an opinion; and I desire to impress that opinion with as much force as I can in the hearing of one of the Commissioners"†

23. *Extracts from a Letter to the Lord Chancellor from the Commissioners in Lunacy with reference to this case.*

Office of Commissioners in Lunacy, 4th July, 1849.

To the Right Honorable the Lord High Chancellor.

My Lord,—Under ordinary circumstances we should not, in this form, trespass on your lordship's attention, but certain dicta and opinions which have been recently attributed to the Lord Chief Baron of the Exchequer, relative to the law regulating the care and treatment of lunatics, and the duties of the commissioners in that behalf, appear to us so seriously to affect the interpretation and application of the law by which we are governed, that we feel called upon, by a sense of duty, to point out in this letter to your lordship (under whose authority more immediately we have the honour to act), the great evils to society which would ensue from their acceptance and adoption as a practical rule.

* Lancet, July 21, 1849.

† Report of the trial. Journal of Psychological Medicine, Oct. 1849.

The dicta and opinions ascribed to the Chief Baron are, we respectfully submit, likely seriously to mislead the medical profession and the public.

We would first refer your lordship to the act of parliament under which this commission is constituted, and by virtue of which persons of unsound mind are legally placed, and detained, in licensed houses and other lunatic establishments, for the treatment and cure of their disease.

The object of these acts is not, as your lordship is aware, so much to confine lunatics, as to restore to a healthy state of mind such of them as are curable, and to afford comfort and protection to the rest. Amongst the many persons confined as being lunatics, or of unsound mind, those who are manifestly dangerous, that is to say, those who, by some overt act, have already proved themselves to be dangerous, are comparatively few in number; the far more numerous classes consisting of—1st, those who are sent into lunatic establishments for the purpose of treatment, with a view to the alleviation and cure of their malady; 2d, those who, from disease of mind, are incapable of self-government, and who therefore require, at certain periods (or perhaps generally), the most careful supervision and control; and 3d, those who are incapable of taking care of themselves or their affairs, and are likely, therefore, to sustain serious injury if left at large and unprotected.

It may reasonably be asked, what would become of all these large classes of the insane if set at large in conformity with the Chief Baron's opinion?

It is well known that all commissions of lunacy are founded, not on the party being dangerous, but on the fact of his being insane, and incapable of managing his own affairs; and yet every one who is found lunatic by inquisition is placed under the care of a committee of his person, who thereupon possesses the entire control over the lunatic, and may keep him in confinement so long as the commission remains in force.

If, in practice, the class of insane persons placed in confinement were limited to such as had previously exhibited some dangerous tendency, the main purposes of the legislature, in the statutes now in force, would be frustrated, and a most fearful hazard be incurred. For inasmuch as the tendency to danger first shows itself more frequently in the later than in the earlier stages of the disease, when alone such disease is likely to be cured, a large proportion of patients of this class would be deprived of the benefit of proper curative treatment until after they had placed either themselves or other persons in peril, and had not improbably (owing to the lapse of time) become themselves incurable.

Moreover, the difficulty of ascertaining whether one who is insane be dangerous or not, is exceedingly great; and in some cases can only be determined after minute observation for a considerable time. It is the general opinion of experienced persons, that whenever an insane delusion exists, the patient can in no case be considered as otherwise than dangerous, although the tendency may never have been actually exhibited by overt acts or expressions; and in our own experience we have known patients whose disorder has appeared to have abated, and who have been treated as harmless for a considerable time, but who, nevertheless, upon some sudden and apparently unprovoked impulse, and without betraying any preliminary violence or irritation, have attempted, and in some instances have effected, the destruction of themselves or others.

In the cases of monomaniacs, and patients suffering under religious and other delusions (not apparently tending to any dangerous result), we have known repeated instances of their attempting and committing self-destruction, homicide, and acts of violence, owing to some imaginary sentence of condemnation, or under the influence of some imaginary voice or spirit.

To revert to the opinion stated to have been expressed by the Chief Baron,

that no person should be placed or detained in any lunatic asylum unless he be dangerous to himself or others: upon this point it is of vital importance that no mistake or misconception should exist, and that every medical man who may be applied to for advice on the subject of lunacy, and every relative and friend of any lunatic, as well as every magistrate and parish officer (each of whom may be called upon to act in cases of this sort), should know and be well assured that, according to law, any person of unsound mind, whether he be pronounced dangerous or not, may legally and properly be placed in a county asylum, lunatic hospital, or licensed house, on the authority of the preliminary order and certificates prescribed by the acts 8 and 9 Vic. c. 100, or c. 126 (as the case may be).

The order and certificates thus obtained show that the person mentioned therein is either a lunatic, an idiot, or a person of unsound mind, and a proper person to be confined, and fully justify all parties in the matter, and they enable the proprietor or superintendent of any hospital or licensed house to plead them in defence to any action, and are, in the words of the statute, a justification for "taking, confining, detaining, or retaking" the patient (see 8 and 9 Vic., c. 100, sec. 99).

If all lunatics and persons of unsound mind, except such as had previously manifested a dangerous tendency, were to be excluded from the care and treatment provided in lunatic establishments, sanctioned by law, for the benefit of the whole class, the most lamentable consequences must ensue.

In respect to pauper lunatics, it has already been the subject of almost universal complaint that the number of such lunatics has been multiplied, and the country burdened to a prodigious amount, because the poorer class of lunatics have been allowed to remain at large, or kept in workhouses, deprived of that medical treatment which a lunatic establishment, properly managed, is best calculated to afford, until their malady has become incurable.

The misery to lunatics' families, and the great cost to the various parishes and counties consequent on this course, it would be difficult to exaggerate.

In regard to private patients, if not placed for cure or care in some lunatic establishment, they must be kept at home under every disadvantage to themselves, and be the cause of great and unnecessary expense, and of inexpressible annoyance to their families. The first, and an essential proceeding with a view to cure is, generally, to detach the patient from the scenes and associations in the midst of which his disorder has arisen. If he were to remain at home, this could not be effected; the proper treatment and accommodation could not be obtained, inasmuch as separate appartments, separate attendants, and daily medical supervision are necessary; and these, in ninety-nine cases out of a hundred, would be beyond the means of the patient's family to afford. Again, the habits and general conduct of patients under the influence of mental disease are frequently so violent, and at times so offensive, that it would be to the last degree cruel and unjust to expose the other members of the family to them; more especially where there are children, whose minds might receive a shock, and perhaps be incurably injured by continually witnessing the paroxysms or maniacal extravagances of a lunatic. Equally unjust would it be to suffer the infirmities of the patient himself to be exposed to the gaze of all the members of the household, and in many cases to the notice and comments of the neighbourhood and of strangers. There are cases of insanity, as your lordship is aware, in which the most distressing symptoms appear, in which the character of the individual for a time becomes altogether distorted; his habits filthy; his expressions and general conduct disgusting. There are also cases of females, suffering under a form of mental disorder, well known to the medical profession, in which, from disease, not only the

words, but the actions also of the patient become absolutely uncontrollable, where the original and real character is, for a time, altogether subverted, and modest restraint and decency are abandoned. The want of moral control, indeed, is one of the most common symptoms and indications of insanity; and the actions and expressions of a large number of patients, suffering at certain periods under maniacal excitement, are of such a nature that it becomes an imperative duty to protect and shield them from observation as much as possible. The privacy indispensable in cases of this sort can only be properly afforded in houses adapted for the purpose of receiving lunatics, who, there at least, are secluded from the observation of all persons except those under whose care they are immediately placed, and are generally exempted from that mechanical restraint or coercion of the person which, if they were confined at their own homes, must frequently be inevitable.

(Signed) Ashley, Chairman.

24. *Dr. Conolly's Remonstrance.*—Dr. Conolly has published a most eloquent and able Remonstrance with the Lord Chief Baron, touching the case. After entering into the general principles which regulate the seclusion of the insane, and then summing up the details of the case in question, Dr. Conolly concludes with the following reflections:

"And all this takes place, unreproved, in a Christian country, in a country where an appearance of honesty and general morality is at least generally respected, and in a country of common sense! All the dishonorable, disgusting, and blasphemous parts of these strange transactions are overlooked; and the removal of this unfortunate lunatic to a house where her money would have been secured from legalized robbery, and her person from the possibility of legalized prostitution, is censured, with all the dignity of the bench, by your lordship, and stigmatised, with all the fervour of the press, in the daily and weekly newspapers, as an outrage not to be tolerated.

"Nor does one suspicion seem ever to have flitted across the bench, or to have entered the minds of the writers for the press, that this Abode-of-Love-God, who signs himself Amen, and has destroyed prayer for ever, and hastened the coming of the kingdom of heaven, and placed the game of hockey among the immortal recreations of ladies and gentlemen; this man, whose word would seem to be so absolute among his dupes as a belief in his divinity can make it, ever extended his power beyond the securing of their property. No, not even at this time, when so much is said about the protection of women, does it seem to be suspected that there may be places where a mock religion and a boundless fanaticism sanction modes of worship which tend to destroy all sense of modesty. All this is passed over, and we do but find undeserved and foolish reproof thrown upon the Commissioners in Lunacy, whose whole time is spent in endeavouring to protect the insane and helpless, and to prevent the improper detention of persons able to take care of themselves and their property.

"Your apparent disregard of all these circumstances, my lord, and your opinion, gravely, emphatically, and authoritatively given, that no insane person should be confined, except when dangerous, and none even then but under a commission of lunacy, takes away all protection from Miss Nottidge, and from many more who will become the victims of the sanctimonious knaves to be found in every rank in society. For some time to come, it will also occasion great uncertainty and uneasiness in many families, who, after passing through many afflicting scenes before making up their minds to seclude some insane relative, will now probably once more consent to incur the miseries of having the lunatic at large, and in their domestic circle. It will expose every feeble-

minded person possessed of property to all the rascality of fanatics and swindlers. It will disturb the contentment of numerous persons now happy and secure in asylums, where they enjoy a safe liberty and every comfort. It will make every medical man so apprehensive of being unjustly censured for writing a certificate of insanity, as often to delay its doing until ruinous or fatal consequences have ensued. It will prevent many insane persons from receiving that early treatment, and being subjected to that timely superintendence, which can alone arrest insanity in its incipient stages, and prevent the supervention of stages of which the symptoms are more violent, and involve the lunatic and all about him in danger, and are such as make the case hopelessly incurable."

The space which we have thus devoted to the present bearings of the case prevent us noticing, more than by name, Dr. Wingett's two publications on the subject, viz.: 1. *A Letter to the Right Honorable Lord Ashley, relative to the case of Nottidge* v. *Ripley;* and 2. *A Vindication of the Decision of the Lord Chief Baron in the case.*

25. *On Partial Insanity, by Henry Lord Brougham.*—In the 'Journal of Psychological Medicine,' April 1849, we find the following article copied from the 'Jurist.' The observations arose, says Dr. Winslow, out of an appeal heard before the Privy Council from the sentence of the Court of Arches, refusing probate to the will of Leach Gibson, published, or purporting to have been published, on the 1st of March, 1834. It will be perceived that his lordship, in delivering judgment, repudiates the idea of partial insanity, maintaining the *unity and indivisibility of the mind.* He also argues that if the intellect be unsound on one point—the unsoundness at all times existing—it is erroneous to suppose the mind to be in a really sane state on other subjects. The will of such a person, apparently ever so rational and proper, is legally void. In the eye of the law, a delusion is defined to be a belief in things as realities which exist only in the imagination of the individual. The incapacity to struggle against a delusion constitutes unsoundness of mind. To constitute a lucid interval, the party must freely and voluntarily, without the design of pretending sanity, confess his delusion. After making a few preliminary observations, Lord Brougham observes:

"The principles which must govern a case of this description are sufficiently clear, and they may be regarded as well settled by the current of former decisions. Indeed, they flow easily, from considering the nature of the inquiry in which such cases engage us. The question being, whether the will was duly made by a person of sound mind or not; our inquiry, of course, is whether or not the party possessed his faculties, and possessed them in a healthy state. His mental powers may be still subsisting, no disease may have taken them away, and yet they may have been affected with disease, and thus may not have entitled their possessor to the appellation of a person whose mind was sound. Again, the disease affecting them may have been more or less general—it may have extended over a quarter, or a less portion of the understanding; or rather, we ought to say, that it may have affected more, or it may have affected fewer, of the mental faculties; for we must keep always in view that which the inaccuracy of ordinary language inclines us to forget, that the mind is one and indivisible; that, when we speak of its different powers or faculties, as memory, imagination, consciousness, we speak metaphorically, likening the mind to the body, as if it had members or compartments; whereas, in all accuracy of speech, we mean to speak of the mind acting variously—that is, remembering, fancying, reflecting—the same mind, in all these operations, being the agent. We therefore cannot, in any correct-

ness of language, speak of general or partial insanity; but we may, most accurately, speak of the mind exerting itself in consciousness without cloud or imperfection, but being morbid when it fancies; and so its owner may have a diseased imagination; or the imagination may not be diseased, and yet the memory may be impaired, and the owner be said to have lost his memory. In these cases, we do not mean that the mind has one faculty, as consciousness, sound, while another, as memory or imagination, is diseased; but that the mind is sound when reflecting on its own operations, and diseased when exercising the combination, termed imagining, or casting the retrospect, called recollection. This view of the subject, though apparently simple, and almost too unquestionable to require, or even justify, a formal statement, is of considerable importance when we come to examine cases of what are called, incorrectly, partial insanity, which would be better described by the phrase 'insanity' or 'unsoundness,' always existing, though only occasionally manifest. Nothing is more certain than the existence of mental disease of this description. Nay, by far the greater number of morbid cases belong to this class. They have acquired a name—the disease called familiarly, as well as by physicians, 'monomania,' on the supposition of its being confined, which it rarely is, to a single faculty, or exercise of the mind, which is sound, to all appearances, upon all subjects save one or two, and on these he shall be subject to delusions, mistaking for realities the suggestions of his imaginations. The disease here is said to be in the imagination, that is, the patient's mind is morbid, or unsound, when it imagines; healthy and sound when it remembers. Nay, he may be of unsound mind when his imagination is employed, on some subjects, in making combinations; and sound when making others, or making one single kind of combination. Thus, he may not believe all his fancies to be realities, but only some, or one; of such a person we morally predicate, that he is of unsound mind only upon certain points. I have qualified the propositions thus on purpose, because if the being or essence, which we term the mind, is unsound on one subject, provided that unsoundness is at all times existing upon that subject, it is quite erroneous to suppose such a mind really sound on other subjects. It is only sound in appearance; for, if the subject of the delusion be presented to it, the unsoundness which is manifested, by believing in the suggestions of fancy as if they were realities, would break out; consequently, it is as absurd to speak of this as a really sound mind—a mind sound when the subject of the delusion is not presented—as it would be to say that a person had not the gout, because, his attention being diverted from the pain by some more powerful sensation, by which the person was affected, he for the moment was unconscious of his visitation. It follows from hence that no confidence can be placed in the acts, or in any act, of a diseased mind, however apparently rational that act may appear to be, or may in reality be. The act in question may be exactly such as a person without mental infirmity might do. But there is this difference between the two cases; the person uniformly and always of sound mind could not, at the moment of the act done, be the prey of morbid delusion, whatever subject was presented to his mind; whereas the person called partially insane—that is to say, sometimes appearing to be of sound, sometimes of unsound mind—would inevitably show his subjection to the disease the instant its topic was suggested. Therefore we can, with perfect confidence, rely on the act done by the former, because we are sure that no lurking insanity, no particular, or partial, or occasional delusion does mingle itself with the person's act, and materially affect it. But we never can rely on the act, however rational in appearance, done by the latter, because we have no security that the lurking delusion, the real unsoundness, does not mingle itself with, or occasion, the

act. We are wrong in speaking of partial unsoundness; we are less incorrect in speaking of occasional unsoundness. We should say that the unsoundness always exists; but it requires a peculiar topic, else it lurks and appears not. But the malady is there; and as the mind is one and the same, it is really diseased, while apparently sound; and really its acts, whatever appearance they may put on, are only the acts of a morbid or unsound mind. Unless this reasoning be well founded, we cannot account for the unanimity with which men have always agreed in regarding, as the acts of an insane mind, those acts, to all appearance rational, which a person does who labours under delusions of a plainly extravagant nature, though there is nothing in the act done, and nothing in the conduct of the party while doing it, at all connected with the morbid fancies. If these fancies only affect the party now and then—if for some months he is free from them, labouring under them at other times—then his acts, apparently rational, would not be regarded as those of a person mentally diseased. But, if we were convinced that, at the time of doing the acts, the delusion continued, and was only latent by reason of the mind not having been pointed to its subject, and would have instantly shown itself had that subject been presented, then the act is at once regarded as that of a madman. Thus, there have been many cases of persons labouring under the delusion that they were other than themselves: some have believed themselves deceased emperors or conquerors; others, supernatural beings. Suppose one, who believed himself the Emperor of Germany, and on all other subjects was apparently of sound mind, did any act requiring mind, memory, and understanding—suppose he made his will, and either did not sign it before signing was required, or, if he did, signed with his own name, but suppose we were quite convinced, that, had any one spoken of the Germanic Diet, or proceeded to abuse the German emperor, the testator's delusion would at once break forth—then we must at once pronounce the will void, be it as efficacious and as rational in every respect as any disposition of property could be; of course no one could propound such a will with any hopes of probate, if it happened that, while making it, the delusion had broken out, even although the instrument bore no marks of its existence at the time of its concoction. It must always be a question of evidence, on the whole facts and circumstance of the case, whether or not the morbid delusion existed at the time of the factum—that is, whether, had the subject of it been presented, the chord been struck, there would have arisen the insane discord, which is absent to all outward appearance from the chord not having been struck. The principles which have been laid down do not at all differ from those on which the courts have acted, which text-writers have constructed, and which scientific men, both moralists and physicians, have approved. We find Sir John Nicholl stating, that mere eccentricity is not enough to constitute mental unsoundness, nor great caprice, nor violence of temper, but that there must be an aberration of reason; and he adopts a definition of delusion given by the learned counsel in the cause, believing it well described by the expression, that it is "a belief of facts which no rational person would have believed." Perhaps, in a strictly logical view, this definition is liable to one exception, and, at least, exposed to one inaccuracy—that it gives a consequence for a definition; and it may be more strictly accurate to term 'delusion' the belief of things as realities which exist only in the imagination of the patient. The frame or state of mind which indicates his incapacity to struggle against such an erroneous belief, constitutes an unsound frame of mind. Sir John Nicholl justly adds, that such delusions are generally attended with eccentricities—often with violence—very often with exaggerated suspicions and jealousies. Lord Hale lays it down, that insanity may be general, and it may be partial. 'There is,'

says he, "a partial insanity of mind, and there is a total insanity;" and the former, he says, is expressed by the phrase "*quoad hac vel illud insanire.*" But Sir John Nicholl (and Hale does not differ) speaks of partial insanity as only that which is occasionally called forth, and not that which only exists occasionally. The authority of Lord Hale is quite consistent with the position, that the disease is always present, and not apparent by the accident of the proper chord not having been struck at the time; and Sir John Nicholl more expressly says, in explaining what he means by *occasional*, "a delusion, not called forth except under particular circumstances." In all the cases there are delusions occasionally manifested, and a state of mind incapable of mastering them.

"Dr. Willis, on Mental Derangement, clearly states that men often mistake, for a lucid interval, the mere absence of the subject of delusion from the mind. He says, no madman can be said to have recovered his reason unless he freely and voluntarily confesses his delusion: to which I take leave to add, that the confession or admission must be, not only freely and voluntarily, but made without any design at the time of pretending sanity and freedom from delusion, according to the known and suspected view of the inquirer, and acting a part accordingly. There is a noted instance of the power sometimes possessed by lunatics to restrain for the moment, and for a purpose, their imagination, and conceal their delusions. It occurred in a case tried by Lord Mansfield, where one Wood, who had indicted Dr. Munro for detaining him in his madhouse, was able completely to evade all questions on his delusions, though some time before, in another indictment, tried at Westminster, he had readily fallen into them when examined. The defendant accordingly was obliged to give evidence at Guildhall, of what had taken place at Westminster. If these are the principles upon which all cases of this description must be decided, there are others applicable to all cases whatsoever, but especially to such as rest upon circumstantial evidence. The burthen of the proof often shifts about in the process of the cause, accordingly as the successive steps of the inquiry, by leading to inferences decisive, until rebutted, cast on one or the other party the necessity of protecting himself from the consequences of such inferences; nor can anything be less profitable, as a guide to our ultimate judgment, than the assertion which all parties are so ready to put forward in their behalf severally, that, in the question under consideration, the proof is on the opposite side. Thus, no doubt, he who propounds a later will, undertakes to satisfy the court of probate that the testator made it, and was of sound and disposing mind. But very slight proof of this, where the factum is regular, will suffice; and they who impeach the instrument must produce their proofs, should the party *actor*, the party propounding, choose to rest satisfied with his *primâ facie* case, after an issue tendered against him: in this event, the proof has shifted to the impugner, but his case may easily shift it back again. So, where any circumstances of grave suspicion arise at the outset of a case, as that a will is shown in the outset to have been made and published in a lunatic asylum (which I have known to happen), the burthen of proving, and very satisfactorily proving, the testator's sanity, would be so clearly on the propounding party, that no further proof would be required to impugn it. In the present case, there is a circumstance of a somewhat similar description. It is not denied that some years after the factum—that is, in 1841, the testatrix was found a lunatic by inquisition; that she died undoubtedly insane, and that the madness was found by the jury to go back to within four years of the date of the will. This clearly made it incumbent on the party propounding, to show the sanity by much clearer proof than would have been required, had no such disease been admitted, on all hands, to have clouded

her understanding towards the close of her life. But it is also to be observed, that insane delusions are very clearly shown to have taken possession of her mind previously to the date of the will; and, although the degree of disease which then existed has been made the subject of dispute, no one can pretend that there was perfect soundness of mind some few years before March 1834. This renders it still more necessary for the court of probate to be satisfied that these delusions had ceased, and the mind recovered its healthy state before the factum. Nor is this all: the delusions, which existed at an early date, are proved to have increased after the will was made. They gathered force until it became necessary to sue out a commission; and the result of the inquisition was, that in 1838 she had become perfectly insane. Thus it becomes quite impossible to disconnect the different periods of this unhappy person's history. There is every probability that the diseased state, which commenced before the factum, continued up to its date. The likelihood is, that the delusions, of which evidence exists before and after, continued during the intermediate time, although no proofs may be obtained of the precise fact; and all the presumptions, which would otherwise have been in favour of sanity at that date, are turned the other way by these important circumstances. Hence, it is not at all a just and correct view of this case, which affirms that the presumption is in favour of the testatrix's soundness; and the proof of continued delusion is thrown upon those who deny it, merely because there is no evidence directly applicable to the date of the will. No one, who finds a person labouring under the same kind of delusions before and after a given period, can be justified in refusing his belief to their continuance during the interval, unless clear evidence be produced of their having ceased for a time, and then returned. The very great probability is, that they existed all the while, and were only not apparent, because the subject with which they were connected did not happen to be openly mentioned before others who might give evidence. The very great probability is, that the patient laboured under them all the while, although she did not openly declare her belief in them, and act or speak under that belief. Another observation remains to be offered, before proceeding to a more minute commentary on the evidence. The existence of delusions being proved, and their continuance proved or assumed at the date of the factum, so that the court is satisfied of the testatrix then labouring under their influence, it is wholly immaterial that they do not appear in the will itself. The party propounding often approached this point in argument, and repeatedly adverted to the fact—perhaps we should rather say the assertion or the assumption—that this will betrays no marks of the alleged delusions, or generally of an unsound mind. There was a manifest disposition to lay down a rule, that no person labouring under monomania or partial insanity can be deemed intestable, unless the kind of insanity appears on the face of the will. But there was wanting the courage to lay down a position which would at once have been rejected, and must have been met by the question—'Could any court admit to probate the will of the man who said (in the case cited by Sir John Nicholl, in Dew *v.* Clarke), '*I am the Christ*,' although that will bear no marks whatever of an unsound mind, still less of the dreadful delusion under which the party laboured. It is hardly possible, on the other hand, that any will can be so framed as to rebut all presumptions of insanity arising from proved facts."

Our limits do not permit of our pursuing the subject of this section further. We would, however, particularly refer our readers interested in the consideration of judicial insanity, to Sir Alexander Morison's excellent observations in chapter xix "Criminal Responsibility," of his recently published lectures, which have been very ably edited by his son, Mr. Thomas Morison, the Honorary Secretary to the Society for Improving the Condition of the Insane.

§ V.—*Pathology.*

26. *On the Morbid Anatomy of Mental Disease.*—In the last vol. of the 'Medico-Chirurgical Transactions' (vol. xxxii), there is a contribution by Dr. Webster on the causes and morbid anatomy of mental diseases. We reprint the following summary of his statements from the 'Medical Gazette.'* The detailed dissections are of value, having for the most part been conducted under the superintendence of Mr. Lawrence:

The author commenced his paper by observing, that having had two of his communications already published in vols. xxvi and xxviii of the Society's 'Transactions,' on the statistics and pathology of mental diseases, he presented the present as a further exposition of the subjects then discussed. He then stated, in illustration of the comparative frequency of madness in the two sexes, that out of 1798 lunatics admitted into Bethlem Hospital during six years, ending the 31st of December last, 1094 were females, and only 704 male patients. He next alluded to the causes apparently producing insanity, which he divided into moral and physical, besides hereditary tendency to mental disease. Of the male lunatics, nearly one half, or 346, became mad from moral causes; whilst the proportion of females was not quite so considerable, being 489 of the entire number. By physical causes, less than one fourth of the male lunatics, or 156, became insane; whereas, amongst the female patients, the proportion was rather larger, being 282. Hence, speaking generally, moral causes produced half the total cases; but physical causes only one fourth. The principal moral influence which occasioned insanity amongst males, was reverse of fortune, whereof 86 examples are recorded. Next, anxiety, which furnished 69 instances; then religion, giving 45 cases; lastly, love, which caused the loss of reason in 18 men. Amongst female lunatics, anxiety was the most frequent moral cause, producing 79 instances out of the 489 patients classed under the above category; whilst 69 cases arose from religion; 62 from the loss of relatives; and 57 from the more powerful influence of Cupid's tender passion upon the susceptible feelings of women. Fright caused insanity in 50 cases; reverse of fortune in 49: whereas, amongst men, as already stated, the same cause produced nearly treble that amount, speaking comparatively. In regard to physical causes, of the 156 male lunatics so affected, 80 originated from intemperance; and of the 282 female lunatics, similarly classified, 117 arose from puerperal disease. Other physical causes were subsequently mentioned by the author, before passing to the examination of hereditary tendency to mental complaints. Of 704 male lunatics previously enumerated, 219, or 31·10 per cent. had hereditary tendency to mania; but of the 1094 female insane patients, the proportion was larger—namely, 390, or 37·47 per cent. The author, among other remarks respecting the influence of hereditary tendency in producing mental disease, said, such an important fact, wherever it exists, should be always well considered by parties forming matrimonial engagements; especially, when both families are unfortunately so tainted. He next adverted to the age at which insanity is most likely to supervene. In males, he stated the most susceptible time of life was from 30 to 40; but in females it was earlier, being from 20 to 30. The author subsequently noticed the two sections of psychological physicians now dividing the profession—namely, the "vitalists" and the "anatomists," of which latter body he is him-

* May 25, 1849.

self a disciple, since he considers their doctrine the most rational, and in a greater degree consistent with the present advanced state of pathological knowledge respecting mental diseases. The author afterwards gave a synopsis of 67 dissections made at Bethlem Hospital, of which the following is a summary of the diseased appearances observed in the brain and membranes. In 53 cases, effusion of water had taken place in the ventricles; in 53 cases, also, there was infiltration of the pia mater; in 38, turgidity of the cerebral blood-vessels; in 30, the arachnoid membrane was thickened and opaque; in 26, the colour of the brain was altered from its natural tint; in 15, there was an effusion of blood within the skull, besides other alterations of structure, as mentioned by the author. The organs of the chest were likewise more or less diseased in as many as 62 of the patients; whilst in 30, morbid changes were likewise noticed in the abdominal viscera: so much so, indeed, was this the case, that the immediate cause of death, in a number of the insane patients referred to in the present communication, was apparently disease in these parts; but more especially, affections of the organs of respiration. Dr. Webster then alluded to the long period during which some of the lunatics had laboured under mental aberration, particularly females, one female lunatic having constantly resided in the incurable ward at Bethlem Hospital for upwards of half a century, or actually fifty-four years; thereby showing that the loss of reason is sometimes not incompatible with longevity. After again referring to the deductions contained in his previous papers communicated to the Society, the author concluded by remarking, that the facts and statements now brought forward fully confirmed his former observations, and he hoped they might prove useful to students of medical psychology.

Dr. Webster sums up his paper with the following generalization:*

From these data it therefore unequivocally appears, that the diseased changes which pathologists may generally expect to find on examining the heads of lunatics, in a great majority of dissections will be:

1st. Infiltration of the pia mater.

2d. Turgidity of the blood-vessels of the brain and membranes.

3d. Effusion of fluid in the ventricles.

[We are free to admit that, while a careful perusal of Dr. Webster's cases certainly bears out the facts advanced in the above summary, the results of his dissections do not alter the views we entertain as to the unsatisfactory relations in which morbid anatomy and mental derangement at present stand. In our former Report (§ VIII, art. 39) we entered at some length on this subject, and would refer our readers to the remarks we there made on this very important point. We would likewise refer them to an article in the number of Dr. Winslow's 'Journal' for Oct. 1848, "*Is Insanity a Disease of the Blood?*"]

§ VI.—*Statistics.*.

Having entered so very fully into this subject in our last Report (§ III), when analysing the result of Dr. Thurnam's valuable labours, we deem it unnecessary at present to refer to the subject; the more so as recent investigations tend only to confirm Dr. Thurnam's results. We would refer our readers to a pamphlet, 'History and Statistics of the Bloomingdale Asylum,' as being carefully drawn up, while it extends over a series of years, and is therefore of practical value to those investigating the statistics of mental disease.

* Medico-Chirurgical Transactions, vol. xxxii, p. 155.

VII. *The General Paralysis of the Insane.*

Several contributions have recently been made to our knowledge of the treatment of this form of mental disease.*

We extract the following observations from Dr. Conolly's beautifully written lecture on the subject:

28. *Nature of the Disease.*—Of all modifications of mental disorder, the form which is either accompanied from the first with that variety of paralysis which has of late years been observed and described as *general paralysis*, or eventually supervenes upon such bodily affection, is the most remarkable.

The commencement is different in different cases.

1st. An epileptiform attack is related to have taken place, and after it the mind to have been observed to be affected.

2d. A change of character is noticed; extravagance; ostentation; foolish speculations; useless purchases; and strange assertions as to wealth and rank. When we see the patient we find a slight but peculiar affection of the speech.

3d. After years of continued or recurrent mania, the speech becomes lingering, and the legs are observed to be a little unsteady.

Its great frequency, its fatal character, its insidious and destructive course, invest it with particular interest for the physician practising among the insane.

29. *Mortality.*—At the Hanwell Asylum about fifty per cent. of the deaths are occasioned by general paralysis; although, among the singular characters of this malady, it is proved that the proportion is very small on the female side of the house, not exceeding eleven per cent. of the deaths. In Dr. Stilwell's private establishment at Hillingdon, of thirty deaths in nine years, twenty-one have been the result of this disease; and of these, all the subjects were males.

It attacks patients of every age from twenty to eighty. Out of 143 cases in which, among male patients, the age was ascertained—

5	died	between	the ages of	20	and 30
47	,,	,,		30 ,,	40
52	,,	,,		40 ,,	50
26	,,	,,		50 ,,	60
12	,,	,,		60 ,,	70
1	,,	,,		70 ,,	80

In about two thirds of these cases it is seen that the age of the patient was between thirty and fifty at the time of death. We have now between twenty and thirty patients affected with general paralysis in the asylum, but not one has been in the house longer than four years: all previously admitted, in whom the malady existed or supervened, have died.

30. *Symptoms.*—It is not always possible to learn when the paralytic affection first appeared, but, drawing conclusions from patients admitted thus paralysed, and between thirty and fifty years of age, we are disposed to assign two, or between two and three, years as the probable average limit of life when the articulation has once become affected. The course of the malady is

* Dr. Winn. A Critical Treatise on the General Paralysis of the Insane; (reprint from Journal of Psychological Medicine, July 1848). Traité de la Paralysie Générale Chronique, considéré spécialement chez les Aliénés. Par Hubert Rodrigues, Professeur Agrégé à la Faculté de Montpellier, &c. Anvers, 1847. 8vo, pp. 250. See also Dr. Conolly's Croonian Lecture on this subject. Lancet, Oct. 27, 1849.

much more rapid in some cases, even where it attacks men between twenty and forty. Some patients, if they are taken great care of, live five or six years after the paralytic malady is declared. They rally, also, from oppressive renewals of their malady, which seem all but to extinguish life, and are yet recovered from, although not without further detriment of the mind as their result.

It is extraordinary that scarcely a trace, if even a trace of a description of a paralysis, so distinct and peculiar in its character, should be found until we come to the writings of physicians yet living. Dr. Delaye, of Toulouse, in 1822, and Dr. Calmeil, of Charenton, in 1826, were perhaps the first to describe the disease distinctly. Dr. Calmeil's work is one of the eompletest monographs on the subject in any language. There is some incidental notice of it in Esquirol, as an accompaniment of insanity preventing a favorable prognosis.

M. Calmeil thinks, as also Dr. Rodrigues, of Montpellier, in a late work (1847), and Dr. Winn, in a critical notice of this in No. III of Dr. Winslow's 'Psychological Journal,' that the paralysis sometimes precedes the mental affection. I have not seen this in any instance, and I question the correctness of the opinion. The mental affection often precedes the paralysis, and apparently the paralysis and the mental affection often commenee together.

The paralytic affection, in almost, or perhaps in every case, may at first be recognised by a slight quivering of the muscles round the mouth, and the slightest possible unsteadiness in the articulation. In a little time, the speech becomes manifestly lingering, but the tone indicates no eonsciousness of it. It is not a stammer; no letter or syllable is repeated; but there is a slight dclay, or lingering, or error, or quivering, in the formation of the successive words or syllables, apparently from a want of prompt nervous or motor influence on the lips and the tongue. By degrees, the articulation grows more and more imperfect, and at length it is scarcely intelligible. At last, the patient seeks resource in monosyllables or inarticulate sounds.

The ordinary motion of the tongue, as in protrusion, is not particularly impaired, in many cases, for some time. In others it is early protruded hastily, and swept from one side to the other when retracted. In several it is protruded by successive efforts, or only kept protruded by such efforts; and in later stages protrusion cannot be accomplished.

Ordinarily, the legs are soon afterward affected. At first there is a sort of jerking, as if the patient delighted in throwing the leg forward; then the feet are planted wider apart. The gait becomes unsteadier and feebler, or the extension of the malady is shown by tremor of the whole trunk or limbs on getting up or sitting down. At other times there are no tremors; the hands are feeble, the grasp is powerless, but there is no tremor, or very little. The head is never tremulous, as it so often is in the palsy of old age. The hands, in some cases, are raised with difficulty to the head, even early in the disease; but this symptom is not constant.

Deglutition remains unimpaired until the later stages. Sometimes the patient seems to lose the sense of satiety, and will eat anything in any quantity. Power over the sphincters seems lost in some cases, from the mental inattention chiefly, and is regained with improved intelligence, the bodily health being, of course, equally improved. There does not often seem to be, until late, a paralysed condition of the sphincters. Sexual desire and power appear to be generally and early extinguished. I believe that common sensation is seldom or never affected; it does not seem impaired in the early stage, or lost in the later stages. It is difficult always to arrive at certainty on this point. There seems to be an insensibility to ulcerations when they exist in

these cases, but the patient disregards all the circumstances of his illness equally. Sight and hearing remain unaffected until the patient is moribund; occasionally there is dilatation of the pupils, or of one pupil.

One remarkable anomaly presented by the disease is, that the muscles do not waste; the patients almost invariably grow fat, sometimes extremely so. In partial paralysis, in the painter's arm, and even the ball of the thumb exposed to lead, wasting is known to be common. Is it that the nerves are not primarily affected in general paralysis, and that the malady is purely cerebral? Or are the sympathies between the organic and natural life suspended, and is nutrition no longer influenced by the nervous system?

The early stage of this specific paralysis of the insane, being unattended with any hemiplegic or paraplegic affection, and the motion of the arms and legs being yet scarcely modified, is almost always overlooked by practitioners unacquainted with the insane. It is to many medical men of great general experience a malady entirely unknown, so that both the medical attendant and the friends are often, in such cases, much surprised to be told that a paralysis of the most serious kind has actually commenced. In lunatic asylums it is so often met with as to be immediately detected. Its recognition is generally of much importance, as no disease sooner disqualifies the subject of it for all kinds of business, or for taking care of property, or more probably indicates a very short life.

In the male sex, to which it is chiefly confined, this malady spares no rank; it takes the artisan from his work, the tradesman from his business, the merchant from his speculations, professional men from their ambitious toils, the wealthy and the great from possessions and power. Rank, talents, virtues, cannot protect from it; the lowest obscurity cannot evade it. Although it sometimes doubtless comes in the train of profligacy, it as frequently assails the prudent, the temperate, the laborious, and the intellectual. If it enters with privation and trouble into common habitations, it also supervenes on the more restless cares from which no splendour can shield:

> "Miseros tumultus
> Mentis, et curas laqueata circum
> Tecta volantes."

And in all thus attacked, whether high or low in station, whether old and feeble, or young and robust, the malady, when once declared, pursues the same fatal course. However slight the blow, it is, from the first, fatal. Whatever delusive appearances may from time to time revive the hope of friends, never more will the worldly work of any one thus struck be resumed. They are written off in the book of this life.

I know that some practitioners are less hopeless in these cases than myself; and I should be much happier if I could be proved to be wrong in pronouncing this melancholy prognosis. At present, much as I know treatment may effect towards alleviating the distresses of this fatal malady, I believe it to be inevitably fatal still. Deceptive appearances of recovery are not unfrequent, and sometimes what almost appears a suspension of the disease occurs; but the truce is, I believe, in all cases, merely temporary.

Yet of all fatal maladies, it seems to be attended, generally speaking, with the least sense of distress. Immediate sacrifices, consequent on the cessation of all exertion, are disregarded; increasing infirmities are forgotten or unheeded; utter helplessness ensues, without the consciousness of it; and the mind, with interruptions of fretfulness, is usually lively and hopeful, and even joyous. To the exalted imagination of the patients, their prospects are the best; their wives are the handsomest; their affairs settled in the most satisfac-

tory manner. Their health, they thank God, is restored; their accomplishments, they do not affect to conceal from you, are boundless. With faltering speech, they declare that no public singer can rival them; and when they can no longer rise from a chair or walk without help, they express an ambition to engage in athletic competitions, to run a race, or fight in a ring; and thus, sometimes, even to the last, or as long as speech remains, they are like happy children,

"Gay Hope *still* theirs, by Fancy led."

The disease is so generally associated with ideas of wealth and grandeur, that when these prevail strongly in any patient, we expect the paralysis to supervene. It is scarcely ever combined with melancholia; but it is almost always associated in its early stage with lively mania, and in its more advanced stage with imbecility.

My own largest and most constant experience is among the insane poor; but yet, in every year, I see some among the noble and the rich, fine active men in the prime of life, whose conduct has become gradually eccentric; their manner has become more haughty, more contradictory and irritable, and they have bought horses, or betted beyond their usual custom, or been guilty of some other extravagance; taking wine more freely, and in some respects losing the habitual reserve or dignity of their character.

For these mental symptoms I am consulted; but the concurrent symptoms of an impaired articulation, and a slight peculiarity in the mode of walking, associated with a lively and careless manner, absorb all my attention. An unfavorable opinion is given to the friends. It does not satisfy them. Various opinions are sought for, and various plans tried, including some absurd and quackish ones. In three or four months the patient is seen again; he stumbles into the room, hitting the chairs or table with his feet; he has grown stouter; his spirits are higher; he pays less attention to the circumstances or persons surrounding him. His face has become inexpressive or fatuous; he shakes hands with everybody; repeats vapid remarks. Altogether his condition has deteriorated, and in a few months more he dies of an epileptiform seizure, or gradually worn out.

Men of active and well-exercised minds are more disposed to this than to any other form of mental malady, and the downward mental progress is doubtless most appreciable in persons of cultivated mind. The features remain, but their expression is gone; the eye continues bright, but its meaning has left it. A restless activity, without object, alternates with a contented indolence and immobility. All care of the person is lost, and all memory, in some cases of those dearest to them, "miserum spiritum trahunt, memoria quoque amissa."

An accurate account of the earliest symptoms of this malady, or of the manner in which it began, is seldom to be obtained. If the disease has crept on insidiously, its earliest steps have generally escaped notice; and when it has seemed to commence with a distinct fit, there is often evidence, although not always clear and precise, of some previous change of the patient's character having been observed, indicative of incipient insanity.

31. *Morbid Appearances.*—The more general statements which I shall be able to make as to the usual appearances after death in such cases, shed no distinctive light on the peculiar phenomena of the malady, although they probably explain, as in other cases of chronic insanity, the incurability of the disease. Possibly some of the appearances may have been the result of recent disorder, associated with the excitement which supervened at the close.

32. *Fatal terminations.*—Maniacal excitement occurs at uncertain periods in most of the cases, and when, as sometimes happens, it appears in those already greatly disabled by the malady, it produces the painful spectacle of a feeble, tottering creature running wildly about, full of anger, or of dread, or of anxiety, and incapable of being tranquillized except when exhausted by these ineffectual efforts. On this, very commonly, a low febrile state supervenes; the tongue becomes foul, the breath fetid, the face flushed; food is refused; and the patient is only relieved by death.

Epileptiform seizures occur in other cases from time to time, followed by alarming stupor, from which the patients rally in a wonderful manner; but each attack makes a further inroad on the intellect and on the bodily powers. In other cases fits of stupor alone occur, or sometimes fits of temporary confusion only; the face is red, and the patient is drowsy; but even these slight attacks generally leave their trace in further impairment of the patient's condition.

In a few patients there is more depression in the beginning of the malady, alternating with the hopeful and lively state.

In other cases, in which there has been much fretfulness and irritability, the patients have had sudden and fatal attacks within one year from the first appearance of the paralysis. In some, after a severe fit, the depression has been succeeded by the most childish vivacity, lasting almost as long as life lasted. In a few, more advanced in life, a sort of *senile melancholia* has been first perceived; and this, on the appearance of the lingering speech, has given way to perfect contentment. Others are, at first, for a time, neither remarkably excited nor depressed, but simply content; they do nothing, are separated from their families and friends, are quite useless, but they feel nothing; "nothing can touch them farther." They walk from morning to night; eat well, sleep well, grow fat. But this tranquil condition is subject to sudden interruptions, which modify all the subsequent symptoms.

However various the causes, the symptoms are nearly uniform.

Over-work produces exhaustion, with loss of appetite, and a desire for readier stimulants than food. To effect temperance, the workman must be surrounded with physical circumstances favorable to it, without which moral influences cannot be depended upon. It is the error of many well-meaning persons in the present day to imagine that they can plant the virtues with success in the habitations of wretchedness, and ensure their growth by oaths and vows. Amidst physical misery, in dwellings offensive to every sense, and among human beings exhausted with toiling for a mere subsistence, or who have ceased from such efforts in drunken despair, "no salutary plant takes root." Life for them has nothing left that is worth preserving; and the only happiness for which an aspiration remains is forgetfulness, which can be cheaply purchased at the druggist's or at the gin-shop. If society would really propitiate the Deity, and avert pestilence, it must, in part, be by other means than one day's nominal fast, or the accents of one day's humiliation. Fasting may be salutary, and humiliation can never be inappropriate; but something more is required in favour of those whose fasts are more frequent and involuntary, and whose humiliation forms a lower deep in the diverse surfaces of life. The waggoner in the fable wearied Hercules with prayers, neglecting, when his waggon stuck fast in mire, to lay his shoulder to the wheel. There are sacrifices more difficult, and exertions greater, than men yet have courage to contemplate; the serving of Mammon lies at the root of this cowardice; and successive examples of disease occur, and successive epidemics destroy and pass away, and we do not apply ourselves to the true wisdom of so amending the lot of labour as that it may shield each honest

family from the pestilence which always first assails the wretched and the unprotected.*

33. *Medical Treatment of General Paralysis.*—We extract the following observations from Dr. Winn's critical treatise on the 'General Paralysis of the Insane:'

In the first period of the disease, when the paralysis is slight. M. Rodrigues recommends the most heroic treatment. He says, that neither advanced age, nor difference of sex, nor apparent weakness of the pulse, contraindicates the use of the lancet. We must use it, moreover, not only once, but several times. Although some robust patients may bear frequent venesections, we think it cannot be too frequently enforced that the brain, in chronic as well as in acute insane cases, is greatly injured by depleting measures. On the other hand, there is every reason to suppose that, in the first period of general paralysis, and in many forms of insanity, local bleeding is often of essential service. When the first appearance of the disease has coincided with the suppression of the catamenia, of hemorrhoidal or other discharges, the restoration of these secretions is often attended with marked benefit. Both Messrs. Esquirol and Rodrigues mention cases in point.

When the general paralysis occurs in a debilitated state of the body, induced by venereal or other excesses, M. Rodrigues recommends cold baths, light tonics, and aromatics. But even in these cases we are surprised to find he advises an occasional abstraction of blood from the arm, although violent purges, and strong stimulant excitants of the nervous system, such as strychnine, he very properly condemns as injurious. Everything tending to cause cerebral excitement, he says, should be withheld; intellectual exertion proscribed, and communications of an unpleasant nature avoided. The douche, which has frequently been boasted of as a powerful agent in those cases, he considers hurtful, in consequence of the reaction which often occurs after its use. He also considers ice, placed on the head, as equally objectionable.

There is a mode of applying cold to the head, recommended by Dr. Arnott, to which he does not allude, but which, we think, deserves attention in all cases requiring the continued application of cold. Dr. Arnott ingeniously suggests that a bladder, with two pipes attached to it, should be placed on the head; by means of these pipes an attendant is to maintain, by pouring water into one pipe, and allowing it to flow out of the other, a constant stream of cold water, which will pass over the head of the patient, and keep it incessantly cold, without the possibility of reaction, provided the attendant does not desert his post.

Digitalis, a remedy greatly extolled by Dr. Locher, of Vienna, and which he administered in large doses, was used with advantage in two of M. Rodrigues's cases; and it was tried extensively at Hanwell, but without any apparent benefit.

In a case cited to show the beneficial influence of digitalis in this disease, there was a combination of epilepsy with the general paralysis, a connexion which has been supposed never to occur. And what is still more strange is, that the occurrence of a severe epileptiform attack temporarily rectified the disordered state of the mind.

M. Rodrigues speaks lightly of sedatives and antispasmodics, such as opium and musk. He says no good has ever been derived from their use. Emetics have been tried extensively by M. Royer Collard and M. Bleynie, but were found rather to aggravate the disease. Tartar emetic has been tried by M. Rech in five patients; the first was maniacal, the second was a case of dementia, the third and fifth were cases of dementia, combined with incom-

* Abridged from Lancet, Oct. 27, 1849.

plete general paralysis, and the fourth had ambitious monomania, with general paralysis. Of these cases, the maniac was the only one who was benefited by the remedy; whilst in the four other cases the emetic appeared completely useless. When the disease has reached the second period, M. Rodrigues believes general bleeding is not indicated, and that revulsives must then form the principal part of the treatment. If the digestive organs be exempt from inflammation, he recommends laxatives and enemata. It will be necessary, moreover, to watch the digestive organs very attentively, for in consequence of the alterations of the brain, gastro-enteritis, in great intensity, might remain undetected. Revulsives on the skin, setons, moxa, issues, &c., he considers useful, and they were successfully tried by Messrs. Bayle and Royer Collard. M. Esquirol, on the contrary, found the application of moxa unavailing when applied to the top of the head in cases of dementia complicated with paralysis. He also applied the actual cautery to the necks of patients who exhibited signs of paralysis, without any beneficial result. M. Fabret, on the other hand, obtained great success by the application of the cautery, in the case of an insane patient, at the Salpêtrière; and M. Voison read a paper, at the Académie de Médecine, in which he gives an account of the application of the cautery in ten cases. In only one instance was it found useless; whilst in the nine other cases an improvement, more or less appreciable, took place in the mental disturbance, and in the disordered functions of sensation and motion.

[This certainly does not correspond with our experience of this remedy.]

We are surprised to find that M. Rodrigues never alludes to mercury as a remedial measure in this disease, although he considers it to depend on inflammation. Mercury has, nevertheless, been given with advantage for general paralysis in this country, as we shall hereafter show. M. Rodrigues, no doubt, shares the prejudices of many of his countrymen against this mineral. In one case that he details, the disease ensued on the suppression of a venereal rash; and although the indications of treatment were clear, we are astonished to find that he never administered a particle of mercury.

In the latter stages of the disease, M. Rodrigues recommends external counter-irritation, whilst internal revulsives must be omitted on account of the diarrhœa, which then becomes very profuse. He mentions that M. Boudin, an old army physician, has much extolled the power of nitrate of silver, either taken as a pill, or in the form of an enema, as a remedy for muco-enteritis, and that M. Ferrus recommends quinine and other tonics in the last stage of the disease. Should convulsions, epileptiform attacks, or apoplexy supervene, M. Rodrigues advises, even in the latter period of the disease, that antiphlogistic measures should be employed, provided an effusion of serum is not supposed to be present; for, should this be the case, he thinks the symptoms would be aggravated by general bloodletting. We, however, consider that general bleeding is to be deprecated in these complications. Dr. Conolly justly observes, that a flushed countenance and an excited manner must not lead us to suppose that bloodletting is necessary; and he mentions two instances in which full bleeding was practised, in consequence of the supervention of violent epileptiform paroxysms, and most serious effects were the result; the patients became reduced to an extreme degree of mental and bodily debility, from which they never rallied.

[In the recent reports of the Commissioners in Lunacy, there are numerous data from medical men connected with asylums in this country, relative to the medical treatment of insanity. With regard to the treatment of the malady under consideration, the information afforded is, on the whole, very unsatisfactory and conflicting. (See our former Report on the Progress of Psychological Medicine, Half-Yearly Abstract, Vol. VII.)]

The temporary benefit obtained by medicine in this disease is often so striking as to lead medical men to suppose that they have cured cases, when speedy relapses too often show how fallacious have been their conclusions. M. Rodrigues justly observes, that the hygienic cure of the paralytic insane is of the greatest importance, either as curative treatment or as means of rendering the patients more comfortable, when all hopes of recovery are at an end. If the unfortunate patients are able to walk, they will merely require to be watched; but on their reaching the third period of the disease, they are generally suffering from complete dementia, and then require much more care. They must be fed, or they will die of hunger, and their cleanliness must be especially attended to; the nurses must remove them from their beds every day, and place them in a warm, though airy spot, for several hours. The bed sores, which occur towards the close of the disease, require the closest attention. Many of the horrible wounds produced by the pressure, and which are described in M. Rodrigues's cases, might, we think, have been prevented by a timely use of the hydrostatic bed. He recommends local applications to these sores; as lycopodium powder, sprinkled on lint soaked in citron-juice; a solution of creosote; tannate of lead; camphor, charcoal, &c. These astringents and antiseptics are no doubt calculated to induce a healthy action of these ulcers.*

§ VIII. *Idiocy.*

34. *The Abendberg; an Alpine Retreat, founded by Dr. Guggenbühl, for the Treatment of Infant Cretins.*—The British public is already in some measure acquainted with the establishment on the Abendberg, and with its benevolent and philanthropic founder, Dr. Guggenbühl, who has made the subject of cretinism his peculiar study. The following account of the subject is extracted from Dr, Coldstream's very interesting publication, 'The Abendberg; an Alpine Retreat,' &c. Edinburgh, 1848.

35. *The Statistics of Cretinism.*—"Amongst the 2,188,000 souls, forming the population of Confederate Switzerland, there are about 20,000 persons afflicted with cretinism in a greater or less degree; about 8000 of these, it is calculated, are truly idiots; while the others labour under various kinds of bodily and mental infirmities, sufficient to mark the existence of the same malady, but not to prevent them from engaging in the ordinary occupations of life."

36. *The Physical Indications of Cretinism.*—"These are generally apparent within the first year after birth. The child's head is disproportionately large and misshapen; its lips, tongue, and throat have a swollen appearance. In many, the skin is very pallid or sallow, and wrinkled; the hair is white, the flesh soft, the organs of the body generally appear imperfectly developed, and the stature low. As the child advances in age, its intellectual and moral defects become more and more obvious. All the senses are dull, and the mind is imperfectly roused by their feeble action. Sensibility is so blunt that they seem to feel neither blows nor wounds. Many cretins are dumb, "not merely because they cannot hear, but because the organ of speech is unable to express thought, even if it were conceived." Often the only sound that is uttered is like the cry of one of the lower animals. Very many are affected with goîtres, which, in the older cretins, sometimes attain a great size; and other symptoms of a scrofulous constitution are apparent in all. Many are subject to fits of raving, resembling paroxysms of mania. In extreme cases, there is presented a hideous combination of deformities, so that the poor creatures cannot be seen by one unaccustomed to the sight without exciting

* Abridged from Journal of Psych. Med., July 1848.

feelings of deep disgust; they are so weak as to be unable to walk, or, at the best, they do so with a waddling gait; they cannot even feed themselves. The eyelids quiver, and the eyeballs, large, red, and prominent, roll continually or squint; the countenance has a vacant expression; the swollen tongue is protruded; saliva runs from the gaping mouth; the distorted, rickety limbs move convulsively; the manifestations of mind are the feeblest possible, excepting in so far as the action of some of the animal propensities is concerned, "It creates a solemn awe in the soul," says Cheever, "to look upon one of these cretins, in whom the mind does not seem so much deranged as departed —gone utterly—not a gleam of the spirit left, the household dog looking incomparably more human. It is a dreadful sight. . . . Who is this melancholy creature which bears the human form in its lowest and most repulsive expression? . . . . . This loathsome idiotic being hears not, speaks not, and only now and then utters a coarse, wild, inarticulate sound. . . . . At first sight we should be inclined to take this wretched being for a gigantic polypus, something in imitation of a man, for it scarcely moves—it creeps with the painful heaviness of the sloth; and yet it is the monarch of the earth, but dethroned and degraded—it is a cretin."* Yet even such have been rescued from their loathsomeness, and converted into sightly and intelligent members of society; blessed, and made blessings. Cretinism, in many instances, is hereditary, but sometimes cretin parents have healthy children."

37. *Nature of Cretinism.*—"By modern psychologists, cretinism is regarded as the highest degree of idiocy, combined with bodily degeneracy, and with certain peculiarities dependent on its endemic character. Knolz believes that its essence consists in 'predominant activity of the ganglionic, and imperfect development of the cerebral system, and finds therein an explanation, not only of the phenomena observed during life, but also that of the remarkably developed sympathetic nerve.'"†

38. *Proximate Cause of Cretinism.*—"This is probably formed of a combination of noxious influences, no one of which, acting separately, would be adequate to the production of the terrible effect. Although one of the most frequent conditions of its occurrence appears to be warm moisture in low situations, this is by no means essential, for it sometimes is met with in open and apparently dry places."

39. *Classification of the Disease.*—Dr. Guggenbühl divides the cretins into four classes:

1st. *The Atrophied Cretins.*—Those whose bodies are much emaciated, and their extremities paralysed. In these he believes that the spinal marrow is chiefly affected.

2d. *The Rickety Cretins.*—Those whose bones are soft, and have their limbs bent in consequence.

3d. *The Hydrocephalic Cretins.*—Those who are affected with chronic water-in-the-head.

4th. *The Cretins diseased from birth.*—In these some of the worst symptoms appear; and they prove the most intractable. Nevertheless, it is remarked, that where a goître exists at birth, the brain is less affected than in other cases.

Individuals are to be found in whose persons all these conditions exist together; and others there are who present various combinations of the symptoms; but in all the classes goîtres are seen frequently. The manifestations

* Berchtold-Beaupré, Dissert. sur les Crétins, p. 2.

† Feuchtersleben's Principles of Medical Psychology, p. 307, Syd. Soc. ed.

of the mental powers and moral feelings vary much in all the classes, and correspond pretty exactly with the greater or less activity of the organs of the senses.

40. *Locality.*—"It is well known that cretinism occurs chiefly amongst the inhabitants of the lower parts and the shady sides of narrow valleys in the higher ranges of the Alps. In the more open places, and at elevations of 4000 feet and upwards, the disease is seldom met with. It would appear that in the deepest valleys, and even at particular spots in these valleys, the worst cases occur. In his account of the cretins, Dr. Reeves remarks, that he found many bad cases in one small village in adjoining houses, "which were built under ledges of the rocks, and all of them very filthy, very hot, and miserable."* The children of the poor are more frequently affected than those of persons in more comfortable circumstances. At Münt, in a poor population of 100, thirty are cretins.†

Numerous as these miserable objects still are, they are unquestionably less so than they were a century ago. This diminution in their number seems to be owing chiefly to the improvement which has gradually taken place in the style of the habitations of the poorer classes, to the draining of marshes, the cutting down of woods, the discouragement of marriages amongst cretins, and the greater care exercised by the parents in sending their affected children, for a certain period of the year, to their *chalets* on the alpine heights.

It must not be imagined that cretinism exists only in Switzerland: it is seen also amongst the mountains of Carinthia, along the banks of the Danube, and in the valleys of the Pyrenees; also in the highlands of Madagascar, in Kemaon, within the ranges of the Himalayas, and, according to Sir George Staunton, even in Chinese Tartary."

41. *Dr. Guggenbühl's History.*—"Such was the miserable condition (as described above) of many thousands of human beings, and these inhabitants of some of the loveliest spots in the known world, when Dr. Guggenbühl was raised up to act as their deliverer, and to prove that even such humiliating degradation is susceptible of relief through the agency of well-devised and patiently-executed plans of treatment, physical and moral.

Although Fodêré,‡ nearly fifty years ago, and Wenzel,§ about the same time, very clearly pointed out the advantages likely to result from the removal of the cretins out of their steamy dens, and causing them to breathe a more salubrious air; and although Reeves, in 1809, affirmed that "cretinism might be prevented by taking children out of the confined and dirty places where it prevails, and nursing and educating them in the higher parts of the moun-

* Edin. Med. and Surg. Journal, vol. v.

† "In the valley of Ollomont, as at Aoste, the enjoyment of natural beauty is rendered impossible by the loathsome deformity of the inhabitants; we were really shocked to find that none of the villages through which we passed seemed to contain one reasonable human being:—goitres and cretinism appeared universal and inseparable. Repeatedly I tried to obtain an answer to a simple question from the most rational-looking of the inhabitants, but in vain. This astonished and shocked us, for we were still at a height of 4000 English feet above the sea, where these maladies commonly disappear; and we looked forwards with despair to the prospect of obtaining a guide for the difficult and unknown country which we were next to traverse from amongst such a population. But in this, as in very many similar cases, first appearances are not to be interpreted to the letter. On further inquiry it was found, that 'the effective population' were mostly absent in attendance on a fête at the chief place of the district, and that 'others were with their herds in the mountains.'"—*Professor Forbes's Travels through the Alps of Savoy*, p. 271.

‡ Traité du Goitre et du Crétinisme, 1800. § Ueber den Kretinismus. Vienna, 1802.

tains," it does not appear that any one had endeavoured to carry these principles fully into effect until Guggenbühl began his experiments in 1839.

It was in the course of a tour amongst the high Alps, made in 1836, that he first became specially interested in the cretins. He saw and felt deeply for their wretchedness; he resolved to study their condition minutely, and for this purpose gave himself wholly to their service, and lived for two years amongst them in the small and retired village of Sernf, in the Canton Glarus. After this he made another journey through one of the most mountainous regions of Switzerland, the result of which was, that the subject took still stronger possession of his mind, and "the idea weighed more and more heavily upon him that this numerous and degraded class of beings who filled the valleys were left to sink deeper in their misery, without one effort being made to help them."* Dr. Guggenbühl now brought the subject before the Swiss Association for the Advancement of Science, and requested its countenance and aid in his purpose of forming an institution for the treatment of cretinism. His request was granted, and he received from the Cantonal Government of Berne, in consequence of the representations in favour of his schemes made by the Association, the sum of 600 Swiss francs, wherewith to make a commencement of his undertaking.

In 1840 the *hospice* of the Abendberg was opened for the reception of patients. A very few entered at first; but the results were so speedily encouraging, that after only two months' trial of his plans, Dr. Guggenbühl resolved to dedicate his life and all his powers to the work, and, regardless of all difficulties, to strive to realize the wish which, day and night, was the continual subject of his thoughts. From such a spirit, animated, doubtless, by true Christian principles, great things were to be expected; and hitherto the philanthropic physician has been enabled to persevere most steadily, amidst frequent discouragements, in the self-denying and almost herculean task which he set for himself. How much patience, how much pure benevolence, how much faith, how much zeal, are required for the laborious occupations of the Abendberg, can be conceived of only by those who have had personal experience of intercourse with their fellow-creatures in the lowest phases of poverty, disease, and ignorance.†

[Dr. Guggenbühl is a native of Meilin, in the Canton of Zurich; by faith, a Protestant.]

42. *The System of Treatment pursued in the Abendberg.*—The great leading principles on which Dr. Guggenbühl's treatment is founded, is, that the immaterial and immortal soul is alike in all men, and that the varieties which exist in the manifestations of its faculties depend upon the differences in the degree of perfection possessed by its external envelope, the body; and, as a consequence of this, that the more complete and normal the state of the bodily functions is, the more freely do the mental faculties exhibit themselves.

Cretinism, then, being the effect of a diseased state of the body, is regarded by Dr. Guggenbühl as amenable to proper treatment, just as is any other morbid condition; and he hopes, by improving as far as possible the bodily health, to admit of the powers of the intellect and the moral feelings being brought into play, and then subjected to suitable training.

Dr. Guggenbühl learned from the experience of the past, that, if young

* Some Account of Cretinism, &c., by W. Twining, M.D., 1843.

† "I know not that the history of philanthropy contains a finer passage than is furnished by the benevolent labours of Dr. Guggenbühl. . . . . "To such devoted and self-denying philanthropy it is impossible to pay too high a meed of praise."—*The Rev. Dr. W. L. Alexander's Switzerland and the Swiss Churches*, pp. 112, 114.

children affected with cretinism be taken from their native valleys to the Alpine heights, for even a few months of the summer, their general health is greatly improved, and their physical and mental defects are diminished. He therefore resolved that the situation of his proposed infirmary should be a very elevated one: and he chose for the subjects of his experiments the youngest cretins he could find.

To form a nursery for invalid children, of from one year to six years of age, at an elevation of 4000 feet above the level of the sea, and in the vicinity of glaciers, and that not merely for the summer, but for the whole year, was certainly a bold step; but bolder still was the determination on the part of the warm-hearted projector to become, in his own person, the director of the establishment, as well as the physician and teacher of the little patient-pupils. There he was, a man of highly cultivated mind and refined tastes, shut up for months together, far away from the amenities of social life, with few companions but those idiot children, of whom scarcely one was able to reciprocate the smiles of tenderness and love he bestowed upon them. Can anything be conceived of requiring more self-denial, patience, and resolution?

It is not far from the summit of the Abendberg, on an open space of grassland, that Dr. Guggenbühl's cottages are situated. It is, in summer, a lovely spot. The views of the neighbouring Alps, the Mönch, the Eigher, and the Jungfrau, the lake of Brienz, and of the celebrated green valley of Interlachen, are magnificent. The combination of beauty and grandeur in the scene is almost unrivalled. The effect of it on the opening minds of the young patients is, doubtless, highly favorable to their development. There are here excellent and abundant springs, and the soil is so productive, and the temperature so high, that ordinary esculent vegetables, and even grain and maize, grow and ripen well. Poultry and goats are also reared: so that the little colony is almost self-supporting. The winter's cold is not so great, nor the fall of snow so deep on the summit of the Abendberg, as in most other parts of the Alps at the same elevation.

It appears that of the true cretin children treated in this Alpine retreat, already about one third have returned to their families, more or less completely restored to health in body and in mind. Some appear to have been completely cured, and rendered as capable of ordinary education as the most healthy children. Dr. Guggenbühl desires that the children should continue at the Abendberg for not less than three years, to do justice to his treatment. Some may require five or six years' residence. But many are removed by their parents too soon, and fall back after their return home.*

43. *Of the Treatment pursued.*—Removed to the Abendberg as soon as possible after being weaned, the children are committed to the immediate care of nurses, by whom they are bathed, fed with goat's milk, carried out and laid in the sun on the grass, and amused, when they are capable of being so. After some time, when the bodily vigour is obviously increased ("when vegetative life begins to recover"), and the children have attained a suitable age, attempts are made to rouse their intellectual powers through the organs of sense. These efforts are first directed to the ear. Tubes and speaking-trumpets of different sizes are used: the sound addressed to the dull auditory nerve of of the cretin must be loud, else it makes no impression. The child is then taught or coaxed to imitate the motions of the lips and tongue required to give utterance to the sound roared into the ear, and by repetition it learns to

* An interesting instance of the complete cure of cretinism was presented in the person of a Dr. Odet, latterly of Montpellier, who in childhood was a cretin, but recovered, passed through a professional education, and became the author of a book on Cretinism.

connect the sound it hears with the attempt to make it; then it tries to articulate, and so, by slow degrees, it gets through the vowels. The eye and the sense of touch are then exercised in connexion with the results of the first series of lessons. The letters are presented in a large form, carved in wood: the child handles them and learns to associate the sound with the letter. Words are formed and learned in the same manner. Then the pupil advances to the application of words to objects. Figures of household utensils are laid before the child and named; by and by he places the articles themselves upon their pictures. When much difficulty is experienced in getting the attention fixed in this way, the child is taken into a dark room, and is shown the forms of letters and objects portrayed on the wall by means of phosphorus. The illuminated figures sometimes arrest the attention more effectually than anything else; and a beginning having once been made, the progress is steady. The senses of smell and taste are also in constant need of cultivation. Some cretin children swallow whatever substance is placed in the mouth, however nauseous; and they seem to be wholly unconscious of differences of odour.

"Gymnastic exercises, which require the daily use of every muscle, are very important, and excite the children to emulation in their feats; whilst the exercise of the faculties of the mind is equally carried on in mental gymnastics, according to the powers of each little scholar. Music has been found to be a powerful aid—soothing, interesting, and refining; and we can bear witness ourselves to the thrilling effect of the voices of the happy little group, who sang to us in their infantine manner the praises of their God. Few persons, we think, could have restrained their tears while listening to that infant choir, and reflecting that but for the Christian love which has watched over them, their voices might still have uttered nothing but groans, and their souls remained ignorant of God their Maker."*

—Dr. Twining has supplied us with a description of the scene presented by the inmates of the *hospice* engaged in their every-day occupations, which gives a good idea of the style of Dr. Guggenbühl's proceedings. "The scene was most impressive; our visit was unexpected, and we found Dr. Guggenbühl engaged in instructing his little patients. His fatherly smile, and the kind manner of his assistant, were not lost even on these scarcely human beings, for several would look up with an expression of happiness. A more strange or more interesting school-room was never seen; to watch the familiar process by which we all unconsciously learn to speak in infancy, here adopted to teach children of any age under six, systematically and with effort, was a matter of deep interest. Here, indeed, was a task of real difficulty, as the organs, far from being ready and eager to receive impressions, were so dull that the strongest means were needed to make them act in any degree. Several of the children were ranged round a table, in chairs formed to support those who could not otherwise sit upright; in nearly all there were the evident signs of their fearful malady, and the dull hopeless look of almost perfect idiocy. On a bed on one side of the room lay one poor creature, who was too great a sufferer to be yet able to join in the instruction which the others were receiving.

She was wrapped in a cloth, so that her face only was visible. The lids of the eyes were constantly quivering and the eyes rolling—the tongue large, and so swollen that the saliva was running from her mouth, and all her limbs were moving convulsively. So dreadful a sight could scarcely be imagined. When the hour of instruction closed, came that of amusement, and here

* The above sentences are extracted from an excellent account of the Abendberg institution, published in 'Chambers's Edinburgh Journal' in May 1848.

the Doctor's kind manner was equally conspicuous, whether the child was swinging, playing with a doll, or beating a drum, or still sitting unconscious of all around it. Day and night the sole thought of this zealous and benevolent man is the happiness and improvement of these poor creatures: in him they have at once a father, teacher, and physician, well qualified by natural disposition and acquired attainments to act in all those characters.

Dr. Guggenbühl has the advantage of being aided in his work by an admirable assistant. This man has the happy faculty of descending with the utmost simplicity, patience, and benevolence, to the level of his stupid little scholars; and then, with inimitable perseverance, he labours to excite some mental emotion. However slight that may be, he seizes upon it eagerly whenever it appears, and keeps his hold of it as of the end of a thread, which will certainly enable him to draw out more. He then carefully proceeds, eliciting most gradually the feeble manifestations of thought and feeling, which are thenceforth strengthened by skilfully-managed exercise.

44. *The Physical Management of the Children.*—In addition to the daily use of baths, as mentioned above, much importance is attached to the occasional employment of electricity, and to frictions with some aromatic herbs. But perhaps no remedial agent is so powerful in contributing to the restoration of health as the constant breathing of the pure air of the mountain. In some of the goître cases, and in the rickety cretins, medicine is used freely, particularly the iodide and other salts of iron, quinine, and cod-liver oil.

It is when the convalescence is established that especial attention is given to the religious instruction of the children. Not but that at any time after the commencement of intellectual activity the truth of the gospel may be received, to the comfort and edification of the spirit struggling with its cumbrous load of a morbid body, but only, that, humanly speaking, and in general, the cretin is not able to give due heed to his spiritual concerns, nor to appreciate the importance of Divine revelation.

45. *Relations of Cretinism to the Idiocy of this Country.*—The author, in conclusion, adds a few words on what may be regarded as *the practical application* of his review of the labours of the philanthropist of the Abendberg and their results, namely, the consideration of what ought to be done for *idiocy*, in imitation of what Dr. Guggenbühl has done for *cretinism*.

"Although all cretins are not idiots, and *vice versâ*, it is obvious that, in a great majority of the former, the manifestation of mind is prevented by causes perfectly similar to those which are connected with the more ordinary forms of idiocy, such as we see them in this and in other civilized countries. If, therefore, many cretins, even those who seem to be the most idiotic, are susceptible of improvement under treatment, many idiots are likely to be so too. And, if they *can be*, they *ought to be* educated. If it be true that Dr. Guggenbühl has been instrumental in enabling even a very few persons to exchange the senseless torpor of cretinism for the activity, usefulness, and enjoyments of social and intellectual life, and to awake to a consciousness of religious responsibility, and to the exercise of the moral feelings, then, assuredly, no idiot ought to be allowed to grow up without at least an attempt being made to improve his physical and moral state, and to rescue him from impending degradation. It is while he is young that he must have the opportunity given to him, of becoming, if possible, a useful member of society. Undoubtedly there are some whose physical conformation is such as to oppose insurmountable obstacles to the success of the training process; yet, exclusively of such cases, there are numbers who, at present, are regarded as hopelessly sunk in idiocy, and who are daily grieved over by afflicted parents, who might be

retrieved, and rendered blessings to their friends and to society. They who now know nothing, wish for nothing, and do nothing, may yet, through education, become intelligent, reflective, and useful. The accomplishment of such an end cannot be attained without great exertions and inexhaustible patience; and, to do justice to the poor objects of the treatment, even the most hopeless cases must be subjected to it; for sometimes the worst complications of idiocy with palsy, epilepsy, and chorea, have been greatly benefited by proper means. It is only after the failure of these means, used very assiduously, that even such cases can be pronounced incurable. From the extensive series of experiments on the treatment of idiocy, made at the hospital of Bicêtre in Paris, by M. Seguin, it results that it is impossible to determine what cases may be benefited by treatment, and what not, without actually making the trial. M. Seguin's success is corroborative of the conclusions arrived at by Dr. Guggenbühl, as to the great improvement which many cases are susceptible of in the manifestation of intellect after due training, and is quite sufficient to encourage others to attempt to benefit even the worst cases, although, indeed, the labour must be great."

"If the attempt should ever be made in this country to educate idiots in a proper manner, they must be subjected to treatment in their earliest years, and all, without exception, must be placed in the same favorable circumstances. And why should not this be attempted?* It appears to me that public economics, no less than considerations of Christian charity, demand that it should. Already, and for many years past, it has been usual in large towns to confine in asylums all adult idiots, whose habits make them either disgusting or troublesome to the public. They are incarcerated for life, and cost the community for their board, &c., a large sum annually. No attempt, excepting very recent ones, has hitherto been made to train and educate them. Yet it cannot now be doubted that some, perhaps many of them, might have been delivered from their idiocy, if they had been properly treated while young. They might have been so far improved by a few years of timeously applied education, as to have been rendered capable of conducting themselves rationally, and of labouring for their own subsistence. Parochial allowances of £10 or £12 per annum, for three or five years, bestowed upon them in their youth, might have prevented the necessity of expending £15 or £20 a-year for the whole term of their existence after maturity. The saving to the public purse, by adopting the plan of educating the young, is sufficiently obvious. Undoubtedly the removal of the idiot from our streets was productive of no small comfort to the community at large; but wiser and better still will be the seeking for him in infancy, and trying to deliver him from his bondage, so as to enable him to take a part in social life, with decency and with advantage to his fellows."

It would not be difficult to obtain pretty accurate data for estimating the numbers and condition generally of the young in this country affected with idiocy. Such an estimate would be essential to the proper arrangement of ulterior measures. So far as the poor are concerned (and it is amongst them that the largest proportion of idiots exists), the necessary information might be collected from the parish-inspectors; and a set of queries, addressed to medical practitioners, would bring out an approximation, at least, to the truth relative to the amount in other classes. By whom the initiative in this inquiry ought to be taken may be a matter of doubt; but, as it ought to extend over the whole kingdom, and be as thorough as possible, perhaps a special commission, appointed by Government, would best effect the object. By a well-

* The attempt is made in one if not more special institutions.

arranged system of inquiry, and by personal inspection of a few districts, in various parts of the kingdom, aided by examinations of persons able to give accurate information on the subject, a few active commissioners might speedily collect all the data necessary for establishing, on a proper foundation, some general scheme of education and training for all the idiot children in the kingdom.

Until this national effort be put forth, we must rest satisfied with such partial attempts to do something for the poor idiot as have recently been made in England, particularly in the establishment of the Asylum for Idiots at Highgate. Should this institution receive public support in the measure which it deserves, it will soon present an excellent model for similar retreats, which, it is to be hoped, will ere long be formed in different parts of the United Kingdom. Then, indeed, will be presented to the world a beautiful instance of the extensive good which may result to suffering and degraded humanity, from the example of a single individual who, with self-denying zeal, sets himself to work for the benefit of his fellow-creatures.

46. *Connexion between Cretinism and Idiocy.*—In Dr. Forbes's 'Physician's Holiday' we find an interesting account of his visit to the Abendberg Cretin Establishment. On one very important point Dr. Forbes holds a different view from that of the founder of the Abendberg. Many cases regarded by the latter as examples of cretinism, Dr. Forbes believes to be in no respect different from the ordinary idiot of this or any other country. The author's observation in different parts of Switzerland appears to have satisfied him, that the distinction between these two classes is not sufficiently regarded. In respect to the connexion subsisting between goitre and cretinism, Dr. Forbes is inclined to think that it may very possibly be an essential one, inasmuch as they may be both owing to the same cause, or to a modification of the same cause.

47. *Idiocy in the United States.*—In the 'American Journal of Medical Science' for April 1849, is a long and well-digested paper on idiocy in the United States. Our present limits will only permit us to notice its publication, and to refer those interested in the subject to the journal itself,

BOOKS RECEIVED.

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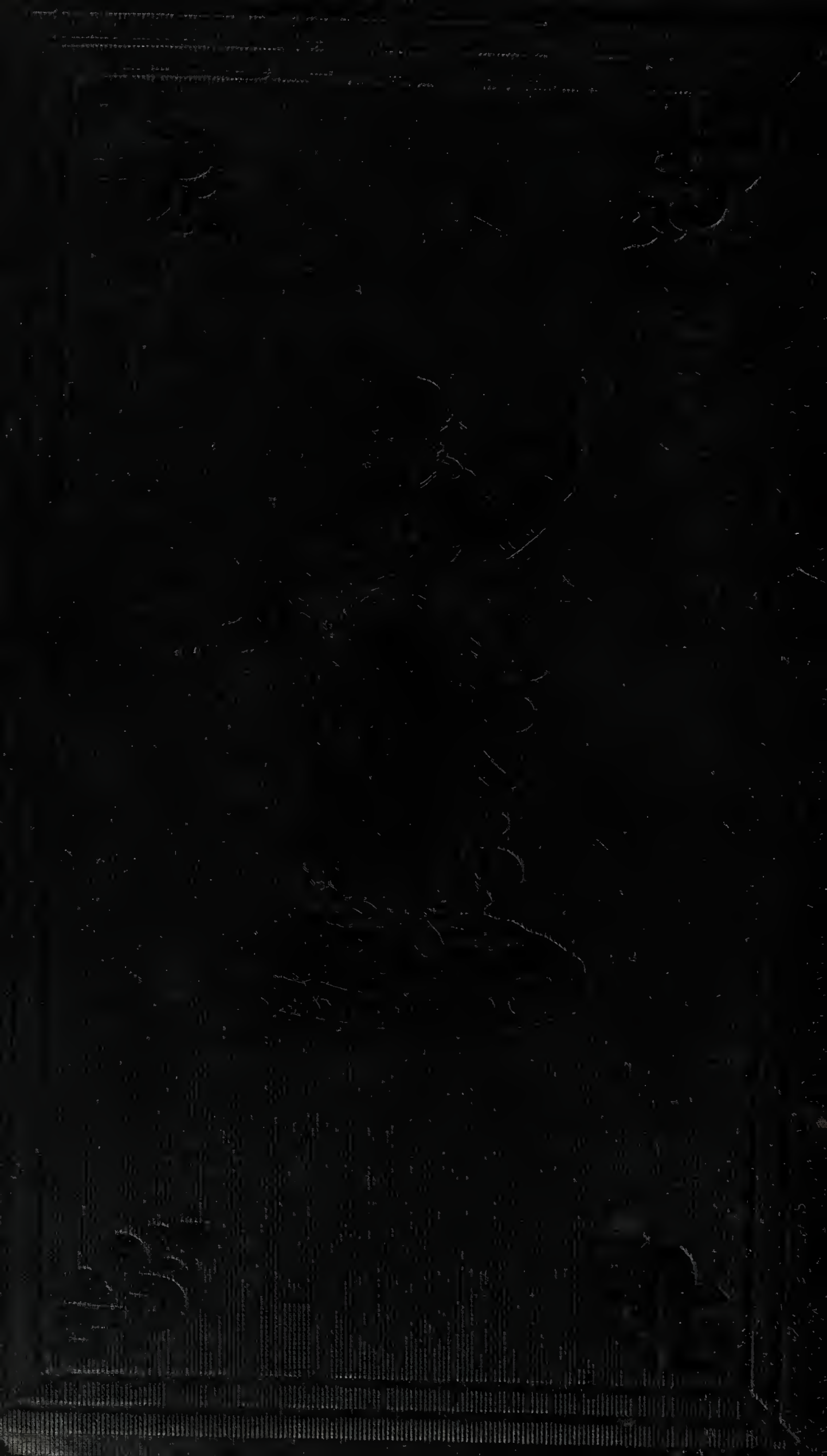
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